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SITE ASSESSMENT REPORT
ADDENDUM II

FOR FACILITY 159 – GAS HILL FUEL FARM

Naval Air Station Jacksonville
Jacksonville, Florida

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Southern Division
Naval Facilities Engineering Command
Contract Number N62467-94-D-0888
Contract Task Order 0101**

NOVEMBER 1999

Rev. 0
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SITE ASSESSMENT REPORT ADDENDUM II FOR FACILITY 159 – GAS HILL FUEL FARM

NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Southern Division
Naval Facilities Engineering Command
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North Charleston, South Carolina 29406

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CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0101

NOVEMBER 1999

PREPARED UNDER THE SUPERVISION OF:	APPROVED FOR SUBMITTAL BY:
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EXECUTIVE SUMMARY
of
SITE ASSESSMENT ADDENDUM II FOR
Naval Air Station Jacksonville
Facility 159 – Gas Hill Fuel Farm
Jacksonville, Florida

Tetra Tech NUS, Inc. (TtNUS) has completed the Site Assessment (SA) Addendum II at the above-referenced facility in general accordance with the requirements of Chapter 62-770, Florida Administrative Code (FAC). This report is being submitted to the Florida Department of Environmental Protection (FDEP) for approval.

Facility 159 or Gas Hill Fuel Farm (Site) is located on Naval Air Station Jacksonville (NASJAX). The Tank Farm is contained within the bounds of NASJAX. Except for the St. Johns River about 2,000 feet north and east of the site, the Tank Farm is more than 0.5 mile from the closest landward boundary of the naval base.

TtNUS performed the following tasks during Phase 1 of the SA Addendum II:

1. Reviewed the Contamination Assessment Report (CAR) and CAR Addendum I to assist with this field investigation.
2. Collected depth-to-groundwater measurements in the existing wells to evaluate the direction of groundwater flow.
3. Installed three shallow monitoring wells and one deep monitoring well downgradient of the impacted groundwater identified at Gas Hill Fuel Farm.
4. Collected groundwater samples from the 25 available, extant assessment wells and the four newly installed wells for laboratory analyses of volatile organic aromatics (VOA), polynuclear aromatic hydrocarbons (PAH), and lead (unfiltered).
5. Used the groundwater analytical data from Step 4 to determine the direct-push technology (DPT) boring and micro-well placement.

Then, the following tasks were conducted during Phase 2 of the SA Addendum II:

1. Advanced five soil borings inside the Gas Hill Fuel Farm using DPT and collected soil samples for lab analyses of VOA, PAH, total recoverable petroleum hydrocarbons (TRPH), and the eight Resource Conservation and Recovery Act (RCRA) metals.

2. Installed five shallow micro-wells inside the Gas Hill Fuel Farm and three shallow micro-wells near the southeast perimeter of Gas Hill Fuel Farm using DPT.
3. Collected groundwater samples from the eight newly installed micro-wells for analyses of VOA, PAH, and lead (unfiltered).
4. Reviewed well surveys provided by the U.S. Army Corps of Engineers (USACE) to identify potential receptors for petroleum hydrocarbons in the vicinity in accordance with Chapter 62-770.600(2)(l), FAC.
5. Collected soil samples and used the resulting analytical data to characterize the solid waste generated during this investigation for disposal purposes.
6. Coordinated and arranged for the transportation and disposal of the solid waste.

Excessively contaminated soil has been delineated on the periphery of the Gas Hill Fuel Farm in previous reports; however, as part of this investigation, field screening and confirmatory lab work were conducted on soils inside Gas Hill Fuel Farm. The OVA-FID screening inside the Tank Farm tentatively identified excessively contaminated soil; however, the lab analytical results indicated that the soils encountered did not exceed regulatory cleanup levels. In accordance with the definition of excessively contaminated soils in Chapter 62-770.200(8) FAC, the lab data nullifies the screening data and the soils are no longer considered excessively contaminated.

Petroleum hydrocarbon-impacted groundwater that exceeds for Groundwater Cleanup Target Levels (GCTLs) and natural attenuation criteria exists outside the southern perimeter of the Tank Farm, and appears to be migrating off of Gas Hill Fuel Farm toward the St. Johns River, which is approximately 2,000 feet east of the Site. For the present, the groundwater impacts on the southern perimeter of the Site have been delineated. Based on the results of this investigation and the two previous reports, TtNUS recommends the design of a Remedial Action Plan (RAP) to address the soil and groundwater contamination identified at Gas Hill Fuel Farm.

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This report encompasses a supplemental site investigation for Facility 159 – Gas Hill Fuel Farm conducted by Tetra Tech NUS, Inc. (TtNUS) for the U.S. Navy (Navy) Southern Division Naval Facilities Engineering Command (SOUTHDIV). The work was performed under Contract Task Order 0101, for the Comprehensive Long-term Environmental Action Navy (CLEAN III), Contract Number N62467-94-D-0888.

The U.S. Army Corps of Engineers (USACE) filed the first site investigation (a.k.a., Contamination Assessment Report [CAR]) for Gas Hill Fuel Farm (1992). Following a round of comments by the FDEP (Nuzie, 1992), the USACE responded with Addendum I to the CAR (1993). Since this is the second supplemental site investigation and in accordance with Chapter 62-770, Florida Administrative Code (FAC), this report will be referred to as the Site Assessment Report (SAR) Addendum II.

This investigation was initiated to determine the presence and extent of petroleum impacts to the groundwater at Gas Hill Fuel Farm located at NASJAX in accordance with the requirements of Chapter 62-770, FAC. The scope of work as outlined in the Contamination Assessment Plan (CAP) (TtNUS, 1999a) indicated that the soil impact due to petroleum hydrocarbons was delineated in the CAR and CAR Addendum I (USACE, 1992 and 1993) and would not be addressed during this investigation. However, soil vapor screening and soil sampling for lab analysis was done inside the facility since it appears this task was not done in the past. In regard to drilling activities outside the facility, soil vapor screening was done for health and safety purposes only. This groundwater investigation was planned to allow up to 14 monitoring wells to delineate the plume and investigate the Gas Hill Fuel Farm. Since the Gas Hill Fuel Farm is active, the assessment was planned as two phases of drilling. The first phase of the investigation involved drilling three water table wells and one deep well using conventional drilling methods at locations downgradient of the plume. This phase also included collection of a full round of samples from the assessment wells, and collection of data required to determine the direction of groundwater flow. Once the groundwater analytical data was evaluated, the second phase of the investigation involved the installation of soil borings and micro-wells, using DPT, to investigate the active Gas Hill Fuel Farm. Soil analytical data was collected during this phase because work inside the Gas Hill Fuel Farm had not been performed previously. DPT offered an opportunity to investigate the Gas Hill Fuel Farm with minimal disturbance to the tanks and piping. DPT was also used to place micro-wells downgradient of the first phase wells, as necessary.

1.2 SITE DESCRIPTION

1.2.1 Location

Gas Hill Fuel Farm is located near the northeast corner of NASJAX, which is in northeast Florida's Duval County west of the St. Johns River. The Tank Farm is contained within the bounds of NASJAX. Except for the St. Johns River about 2,000 feet north and east of the site, the Tank Farm is more than 0.5 mile from the closest landward boundary of the naval base. NASJAX is located near the tip of a peninsula between the Ortega and St. Johns Rivers, approximately 8 miles southwest of downtown Jacksonville, Florida. NASJAX lies within Township 3 South, Range 26 East, and Gas Hill Fuel Farm lies within Section 39. **Figure 1-1** depicts part of NASJAX with Gas Hill Fuel Farm shown as Site 159 near the upper right corner of the figure.

1.2.2 Topography and Drainage

The physiography, particular to the region and NASJAX was discussed in Section 3 and Appendix A of the CAR (USACE, 1992). The CAR stated that Site elevations "range from approximately 6 to 9 feet above msl (mean sea level)". **Table 1-1** provides the coordinates and elevation data for the newly installed monitoring wells, and it indicates a range of ground elevation from about 4.2 to 5.7 feet above msl for those wells offsite. This difference is due to an actual change in topography. The CAR was probably also referring to elevations around the Site and not on the hill because the elevations on Gas Hill Fuel Farm, as measured next to wells installed during this investigation, range from 19.2 to 22.8 feet above msl.

Figure 1-2 shows a drainage ditch on the north/northeast side of the Gas Hill Fuel Farm, which drains from the north side of the Site eastward to an outlet near monitoring well JAX-159-GH-7. Hereafter, the JAX-159 prefix on the assessment wells will be dropped and well numbers will only be preceded by the GH- nomenclature. Not shown on the map is a minor ditch that begins near GH-14 on the southeast side of the Site and tracks east for a short distance near GH-27 before changing direction toward the northeast. This minor ditch passes just to the west of wells GH-29 and GH-32. Both of these ditches appear to drain eastward to the St. Johns River.

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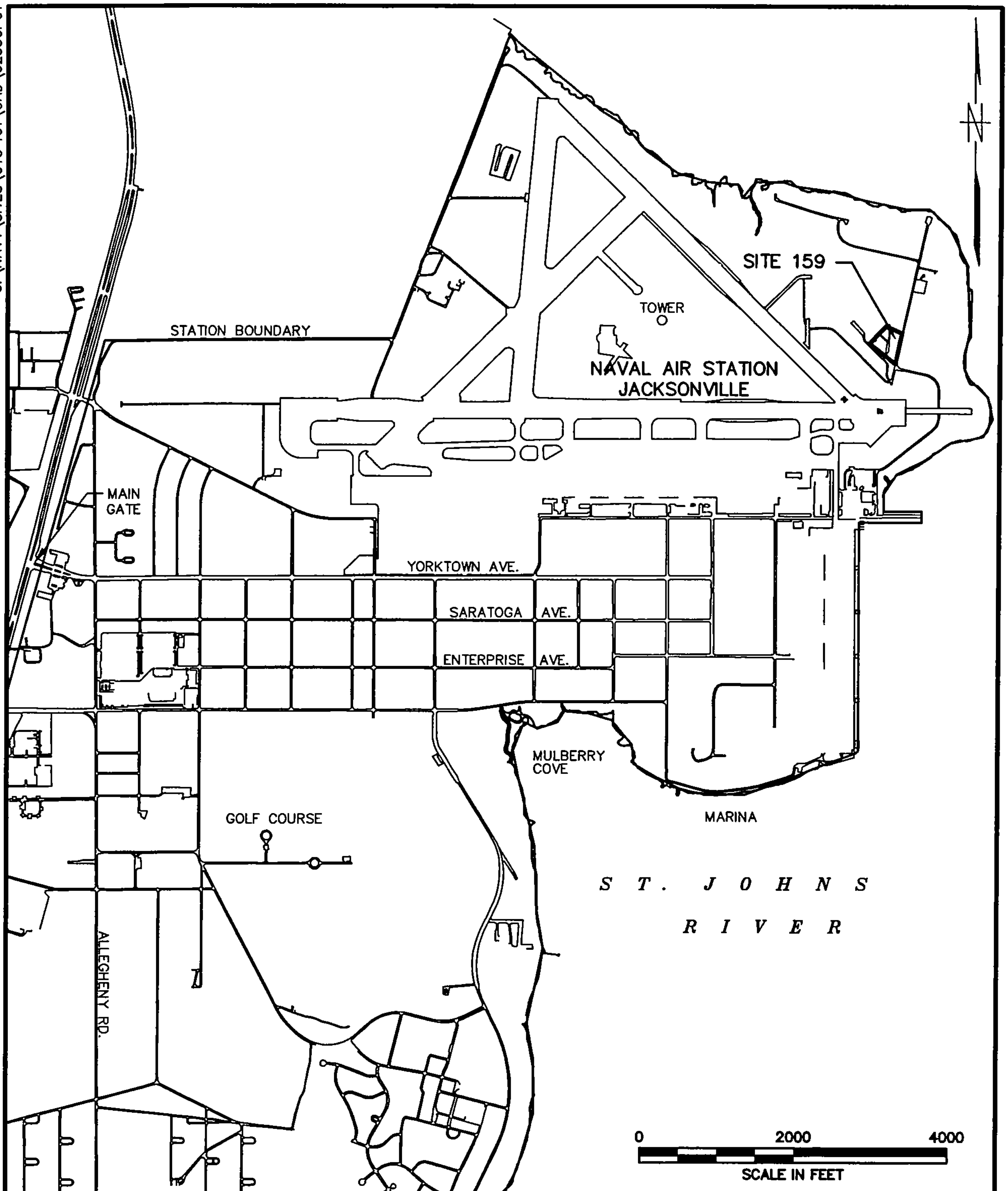

DRAWN BY LLK DATE 11/10/99	SITE LOCATION MAP GAS HILL FUEL FARM (FACILITY 159) NAS JACKSONVILLE JACKSONVILLE, FLORIDA	CONTRACT NO. 0255
CHECKED BY DATE		APPROVED BY DATE
COST/SCHED-AREA		APPROVED BY DATE
SCALE AS NOTED		DRAWING NO. FIGURE 1-1 REV. 0

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Table 1-1
Monitoring Well Coordinate and Elevation Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

WELL ID	NORTHING (Y)	EASTING (X)	DESCRIPTION	ELEVATION
GH-26	2145145.77	446182.17	TOP PVC	4.39
			TOP OF CONCRETE	4.59
			N. GRND	4.50
GH-27	2145141.48	446187.58	TOP PVC	4.74
			TOP OF CONCRETE	4.92
			N. GRND	4.80
GH-28	2145094.39	446225.58	TOP PVC	5.07
			TOP OF CONCRETE	5.50
			N. GRND	5.30
GH-29	2145123.92	446276.23	TOP PVC	5.16
			TOP OF CONCRETE	5.34
			N. GRND	5.10
GH-30	2145096.68	446171.88	TOP PVC	4.97
			TOP OF CONCRETE	5.13
			N. GRND	5.00
GH-31	2145087.88	446224.52	TOP PVC	5.47
			TOP OF CONCRETE	5.64
			N. GRND	5.40
GH-32	2145118.08	446375.40	TOP PVC	4.05
			TOP OF CONCRETE	4.23
			N. GRND	4.20
GH-33	2145362.06	445848.22	TOP PVC	4.62
			TOP OF CONCRETE	4.87
			N. GRND	4.70

See notes at end of table.

Table 1-1 (cont'd)
Monitoring Well Coordinate and Elevation Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

WELL ID	NORTHING (Y)	EASTING (X)	DESCRIPTION	ELEVATION
GH-34	2145480.49	445751.69	TOP PVC	5.59
			TOP OF CONCRETE	5.87
			N. GRND	5.70
GH-35	2146004.323	445707.11	TOP PVC	22.19
			TOP OF CONCRETE	22.17
			N. GRND	21.84
GH-36	2145883.69	445860.53	TOP PVC	22.70
			TOP OF CONCRETE	22.91
			N. GRND	22.80
GH-37	2145762.54	445942.46	TOP PVC	19.72
			TOP OF CONCRETE	19.99
			N. GRND	19.90
GH-38	2145630.61	446077.36	TOP PVC	21.03
			TOP OF CONCRETE	21.35
			N. GRND	21.30
GH-39	2145812.14	446158.12	TOP PVC	18.97
			TOP OF CONCRETE	19.29
			N. GRND	19.20

Notes: PVC = poly vinyl chloride.
N.GRND = measurement of ground elevation on north side of pad.

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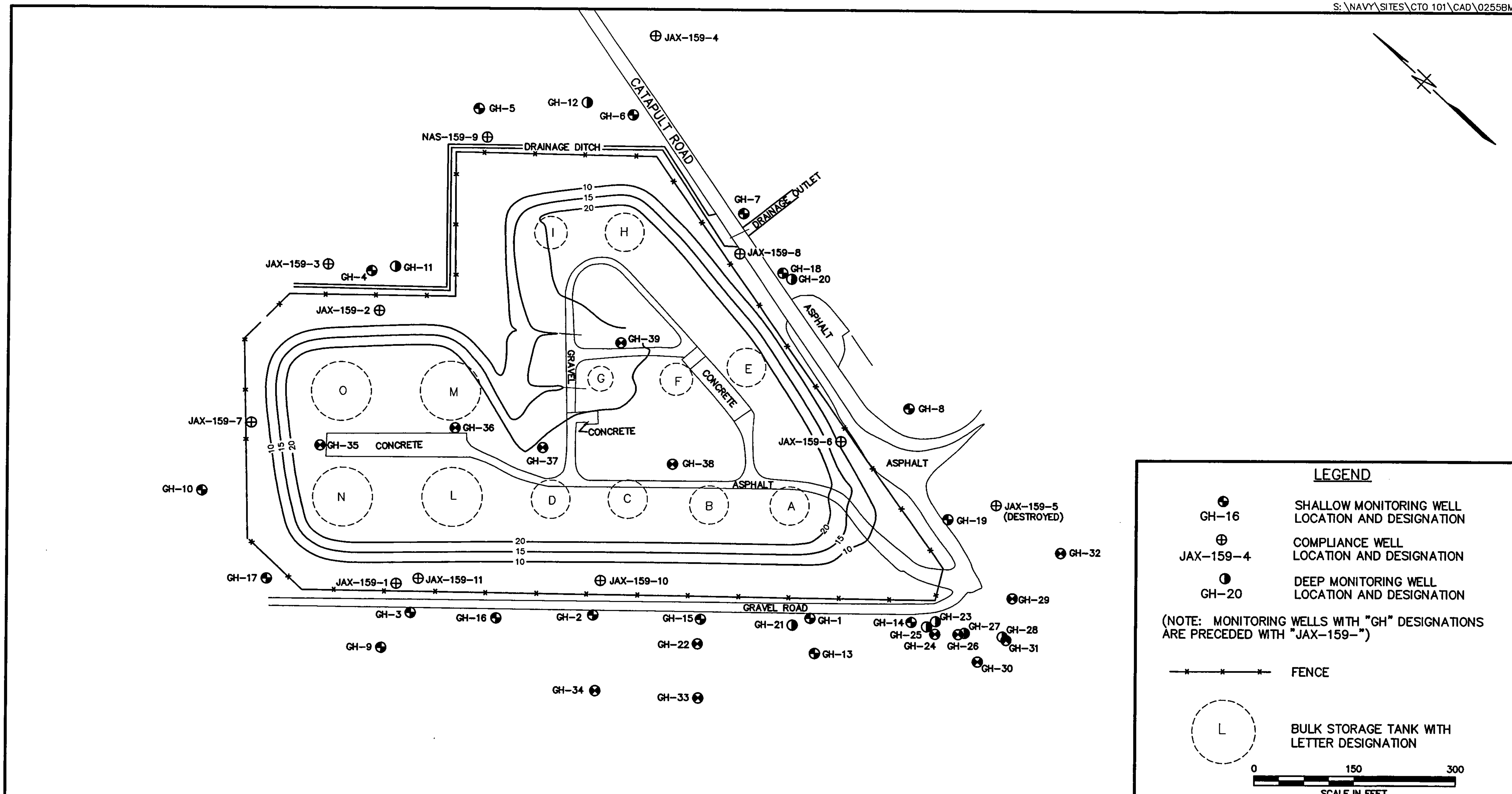

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 10/21/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

DEPARTMENT OF THE NAVY
SOUTHERN DIV FACILITIES ENGINEERING COMMAND

SITE PLAN
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 1-2
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

1.2.3 Regional Geology and Hydrogeology

The CAR (USACE, 1992) provides an adequate discussion of the regional hydrogeology, as such, this information will not be repeated here.

1.2.4 Land Use

Gas Hill Fuel Farm is located northeast of the runways at NASJAX. The Site is depicted on **Figure 1-2.** Currently the Site has 15 active underground storage tanks (UST) **(Table 1-2)**, which were installed as a bulk fuel storage and distribution facility. The tanks have a total capacity of approximately 4 million gallons, and they stored various petroleum-based fuels. Three of these USTs are still active. Currently, the Navy has plans to deactivate Gas Hill Fuel Farm in the near future.

Access to Gas Hill Fuel Farm is limited because of its proximity to the runways and the single road that leads to the Site. Other facilities north of the Gas Hill Fuel Farm include jet engine test cells, an antenna site, and a fuel pier. Security personnel, who control access to the flight line, also control access to Gas Hill Fuel Farm. A chain link fence encompasses the perimeter of the Site and the Navy's security personnel patrol the area regularly.

1.2.5 Site Description

Gas Hill Fuel Farm is a man-made mound containing 15 UST. Only a small portion of each tank exists above land surface along with some associated piping. Except for a gravel/asphalt/concrete road that encircles the Site to allow access to the tanks, the Site is covered in grass. On the edge of the Gas Hill Fuel Farm, the land quickly slopes from an artificial grade of about 20 feet above msl to about 10 feet above msl. Then a narrow grassy corridor surrounds the Site before a fence is reached that encompasses the Site. The road mentioned earlier slopes down to the south corner of the Site where the only entrance to the Site exists. The entrance is gated and Navy personnel keep it locked when they are not onsite. The Site's road connects to Catapult Road (**Figure 1-2**).

1.2.6 Potable Water Well Survey

The water supply information presented in this report was obtained from the CAR (USACE, 1992) which includes potable well supply data and large-diameter non-potable well supply data. The Navy's point of contact for water well data at NASJAX, Mr. David Ford, was also contacted to update the data (TtNUS, 1999b). The data for Wells 1 through 6, 9, 12 and 13 (**Table 1-3**) remain unchanged; however, wells 7, 8,

Table 1-2
Storage Tank Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

TANK NO.	DATE INSTALLED	CAPACITY (gal)	CONSTRUCTION INFORMATION	CONTENTS	STATUS
159-A	1943	250,000	Concrete, interior lined	JP-5	O
159-B	1943	250,000	Concrete, interior lined	JP-5	O
159-C	1943	250,000	Concrete, interior lined	JP-5	O
159-D	1943	250,000	Concrete, interior lined	JP-5	O
159-E	1943	250,000	Concrete, interior lined	Avgas	O
159-F	1943	100,000	Concrete, interior lined	Avgas	O
159-G	1943	50,000	Concrete, interior lined	JP-5	O
159-H	1943	250,000	Concrete, interior lined	JP-5	O
159-I	1943	100,000	Concrete, interior lined	JP-5	O
159-J	1944	1,550	Steel, interior lined	Diesel	R
159-K	1944	1,550	Steel, interior lined	Diesel	R
159-L	1953	567,000	Steel, interior lined, cathodic protection	JP-5	O
159-M	1953	567,000	Steel, interior lined, cathodic protection	JP-5	I
159-N	1953	567,000	Steel, interior lined, cathodic protection	JP-5	I
159-O	1953	567,000	Steel, interior lined, cathodic protection	JP-5	I

Reference: TtNUS, 1999c.
Notes: I = in service.
R = removed.
O = out of service.

10 and 11 have been properly abandoned according to Mr. Ford. Since there have been no additions to the wells surveyed from 1992, it appears that the nearest documented water supply wells are situated (greater than 0.5-mile upgradient from the Site) in such a way as to "preclude any effects from the shallow contaminants" at Gas Hill Fuel Farm (USACE, 1992).

1.3 SITE HISTORY AND OPERATIONS

1.3.1 Site History

A history of Gas Hill Fuel Farm is explained in Section 2.2 of the CAR (USACE, 1992), which briefly tells about the Site until the beginning of the CAR. During the CAR investigation, the USACE drilled 12 4-foot borings (159-1 through 159-12) and executed 53 soil gas probes. The USACE concluded in the CAR that soil contamination is confined to spill areas on Gas Hill Fuel Farm. They also installed 13 permanent monitoring wells (GH-1 through GH-13). **Figure 1-2** indicates the location of those wells. Nine of the wells were set between 10 and 12.5 feet below land surface (bls) to intercept the water table while GH-11 and GH-12 were set to approximately 33 feet bls. According to the groundwater flow map (USACE, 1992), the water table flows radially from the center of the Site and follows the area's southeasterly groundwater flow direction after moving away from the Gas Hill Fuel Farm. The analytical results from the CAR indicated that groundwater contamination was present in 5 of the 13 wells (GH-1, 2, 3, 8, and 13). Except for GH-8, which is about 300 feet north of the southern tip of Gas Hill Fuel Farm, the other wells are located along the southwestern perimeter of Gas Hill Fuel Farm. The CAR indicated that horizontal groundwater contamination "beyond the Site boundaries appears to be coincident with embankment seepage and historic spills", and that the vertical extent of contamination does not exceed 25 feet bls.

Following a review by the FDEP (Nuzie, 1992), the USACE did a supplemental investigation that involved additional soil and groundwater assessment (1993). The soil investigation indicated that an area of excessively contaminated soil exists along a 40-foot wide strip beginning from the western-most corner of the facility for about 250 feet south along the fence line. Other soil data for the remainder of the Site indicated a smaller area (less than 2,500 square feet) just outside the fence line on the eastern side of the Site between the Site and Catapult Road (USACE, 1993). They also installed seven water table wells (GH-14 through 19 and 22) and two deep wells (GH-20 and 21). The analytical results from a complete round of samples for wells GH-1 through 22 indicated that "shallow groundwater contamination exists outside the boundary fence, along the southwestern edge of the fuel farm" and that vertical contamination

Table 1-3
Water Well Survey

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Well No.	Usage	Casing Diameter (inches)	Total Depth (feet)	Casing Depth (feet)	Notes
1	Potable	12	1215	380	Water Plant No. 1
2	Potable	18	1200	400	Water Plant No. 1
3	Potable	18	1200	400	Water Plant No. 1
4	Potable	12	1015	312	Water Plant No. 2
5	Potable	12	988	400	Water Plant No. 3
6	Potable	12	646	271	Water Plant No. 4
7	Non-potable	4	?	?	Properly Abandoned, 1990
8	Non-potable	8	400	288	Properly Abandoned, 1999
9	Non-potable	12	800	?	Black Point-Kemen Test Cell
10	Non-potable	10	1096	316	Properly Abandoned, 1999
11	Non-potable	4	407	251	Properly Abandoned, 1999
12	Non-potable	6	120	120	
13	Non-potable	4	650	120	

References: USACE, 1992 and TtNUS, 1999b.
Notes:
? - data unknown or unavailable.

in the area does not extend "to the 30 to 35-foot level." A meeting between the FDEP, Navy, and the USACE resulted in an agreement to monitor the groundwater quarterly.

The last round of groundwater monitoring completed at the Site was conducted on September 29 and 30, 1998 on monitoring wells GH-6 through 9, 13 through 17, 19, 20, and 22 through 27. Wells GH-23, 25 and 27 were installed (circa 1997) as deep wells while GH-24 and 26 were drilled (also, circa 1997) as water table wells. The monitoring report (TtNUS, 1998b) indicated contamination that exceeded FDEP GCTL in samples from monitoring wells GH-14, 15, 23, 26 and 27. At that time, the concentrations in the water table wells indicated that petroleum contaminants were present above GCTL in downgradient wells, which left the plume undefined to the southeast. Although no contaminants were detected in the zone from 35 to 40 feet bls (GH-25), well GH-27 screened from 30 to 35 feet bls was reported to have increasing levels of benzene above the GCTL which left that zone undefined to the southeast. The monitoring report recommended that the monitoring program be discontinued until completion of the SAR Addendum II and approval of the resulting report.

2.0 SUBSURFACE INVESTIGATION METHODS

2.1 QUALITY ASSURANCE

The Site investigation was conducted in general accordance with the Standard Operating Procedures (SOP) prescribed by the FDEP Quality Assurance Section Document DER-001/92, and adopted by the TtNUS Comprehensive Quality Assurance Plan (CompQAP) Number 980038 (1998a).

2.2 SOIL BORING AND SAMPLING PROCEDURES

2.2.1 Monitoring Well Soil Borings-Offsite

On July 26 and 27, 1999, four proposed sites were post-holed by Precision Drilling, Inc., under the supervision of TtNUS personnel in preparation for installing 2-inch diameter monitoring wells (GH-28, GH-29, GH-30 and GH-31) to track the progress of the groundwater contaminant plume. Each proposed well site was post-holed to 4 feet bls for the purpose of utility location and to characterize lithology. As indicated in Section 1.1, soil delineation was not considered necessary offsite. The locations of the monitoring wells are shown on **Figure 1-2**. Soil boring logs are included in **Appendix A.**

Soil cuttings generated during the soil boring activities and subsequent well installations were placed in 55-gallon steel drums and labeled as investigative-derived waste (IDW). Soil samples were collected on July 30, 1999, from the drums generated during this phase of drilling. The samples were labeled NASJ-159-GH-IDW-01. A grab sample was collected from one of the drums generated during the installation of GH-28, and it was sent for analysis of VOA using United States Environmental Protection Agency (EPA) Method 8021B. Soils from several drums were collected and homogenized in a pre-cleaned stainless steel bowl to provide a composite soil sample for analyses of PAH using EPA Method 8310; TRPH using Florida – Petroleum Residual Organics (FL-PRO); and, the eight RCRA metals using EPA Method 6010B. IDW soil analytical data sheets are in **Appendix B** and the disposal manifest is in **Appendix C.**

2.2.2 Direct-Push Soil Borings-Offsite

On August 30, 1999, three proposed sites outside the Gas Hill Fuel Farm were post-holed by Precision Drilling, Inc., under the supervision of TtNUS personnel in preparation for installing 0.5-inch diameter micro-wells (GH-32, GH-33, and GH-34). Each proposed well site was post-holed to 4 feet bls for the purpose of utility location, to characterize lithology, and to measure soil vapor concentrations for health and safety. The locations of the monitoring wells are shown on **Figure 1-2**. Soil boring logs are included in **Appendix A.**

Soil cuttings generated during the post-holing activities were placed in a 55-gallon steel drum. That drum was also used to store the soils generated during the DPT work inside the Gas Hill Fuel Farm.

2.2.3 Direct-Push Soil Borings-Onsite

On August 31 and September 1, 1999, five proposed sites inside the Gas Hill Fuel Farm were post-holed to 4 feet bls in preparation of DPT activities. DPT was specifically used to minimize the potential for damaging subsurface utilities. These drilling methods were also used to characterize lithology and to provide samples for collection of soil vapor concentration data. The work was done by Precision Drilling, Inc., under the supervision of TtNUS personnel in preparation for installing 0.5-inch diameter micro-wells (GH-35, GH-36, GH-37, GH-38 and GH-39). After post-holing, DPT soil samples were collected using two-foot long stainless steel split barrel samplers lined with plastic sleeves. Soil samples were collected continuously from the ground surface to the water table (between 13 and 17.5 feet bls). Soil boring locations, which are coincident with the well locations, are depicted on **Figure 1-2**. Soil boring logs are included in **Appendix A.**

Soil samples were visually inspected for evidence of staining. Samples were collected during post-holing and DPT soil sampling and screened with an OVA-FID. Soil vapor analysis was performed in accordance with the headspace screening method prescribed by Chapter 62-770 FAC.

The driller installed a second DPT borehole within 1 foot of each original borehole. The second borehole at each location was advanced to the depth of the high vapor reading for the purpose of obtaining a fresh, discreet sample for submittal to a laboratory. If no petroleum hydrocarbon vapors were detected in the first borehole using the OVA, an arbitrary depth of four feet bls was chosen to collect a sample for confirmation of the clean soil. So, one soil sample was collected from each of the five borings drilled inside the Gas Hill Fuel Farm. The samples were sent to a laboratory for analyses explained in Section 2.5.

Soil cuttings generated during the DPT soil boring activities were placed in a 55-gallon steel drum. Since, soil samples were collected from each boring and analyzed for compounds similar to pre-burn requirements, those results were used to characterize the IDW for pre-burn disposal. Soil analytical data sheets are in **Appendix D** and the disposal manifest is in **Appendix C.**

2.3 WELL CONSTRUCTION

2.3.1 Two-inch Monitoring Well Construction and Development

On July 26 and 27, 1999, monitoring wells were installed in conjunction with the soil boring procedures discussed above in Section 2.2.1. The monitoring wells were placed to provide spatial coverage downgradient of wells which contained previously reported elevated hydrocarbon levels near the southeast corner of the Site.

Shallow monitoring wells GH-29, GH-30, and GH-31 were advanced using 8.25-inch outside diameter (OD) hollow-stem augers. Each well was constructed of 2-inch inside diameter (ID) threaded, Schedule 40 poly vinyl chloride (PVC) solid riser and 0.010-inch slot well screen with a silt trap and well bottom cap. These wells were installed to approximately 13 feet bls with a 10-foot screened interval. Each annulus was filled to approximately 1 foot above the well screen with US Standard Sieve size, 20/30-grade silica sand. The 20/30 sand was capped to about 1.2 or 1.5 feet bls with bentonite chips. The remainder of the annulus was grouted to the surface with Portland cement. Each well is secured with a locking, watertight cap within a steel, 8-inch diameter bolt-down manhole. The manhole was set within a 24-inch square concrete pad, which was finished slightly above grade. A well construction diagram is included as **Figure 2-1.** Well completion logs are provided in **Appendix E.**

The deep monitoring well (GH-28) was double-cased to minimize the downward migration of contaminants in the water table to the intended screen interval for this well. Twelve-inch OD hollow-stem augers were used to set a 6-inch ID threaded, Schedule 40 PVC solid riser with a bottom cap to a depth of approximately 15 feet bls. The annulus was filled to approximately 1 foot bls with Portland cement, and this secondary casing was allowed to set for approximately 24 hours. Then it was drilled out with a 6-inch OD tri-cone bit using mud rotary techniques. The primary casing for the well was constructed of 2-inch ID threaded, Schedule 40 PVC solid riser and 0.010-inch slot well screen with a silt trap and well bottom cap. This well was installed to approximately 35 feet bls with a 5-foot screened interval. The annulus was filled to approximately 2 feet above the well screen with US Standard Sieve size, 20/30-grade silica sand. The 20/30 sand was capped to about 2 feet bls with bentonite chips. The remainder of the annulus was grouted to the surface with Portland cement. The well is secured with a locking, watertight cap within a steel, 8-inch diameter bolt-down manhole. The manhole was set within a 24-inch square concrete pad, which was finished slightly above grade. A well construction diagram is included as **Figure 2-1.** The well completion logs are provided in **Appendix E.**

Each well was developed using a submersible pump. During well development, field measurements of pH, temperature and specific conductance were monitored from the purge water generated. The wells were developed under supervision of a geologist up to a maximum of one hour or until the field measurements became stable and the purge water clear. Water quality stabilization was determined using the following criteria: temperature plus or minus (+/-) 0.5 degrees Celsius (°C), pH +/- 0.1 standard unit, and specific conductance +/- 10 millisiemens per centimeter (mS/cm).

2.3.2 DPT Micro-Well Construction and Development

On August 30, 1999, three DPT micro-wells (GH-32, GH-33, and GH-34) were installed outside the Gas Hill Fuel Farm under the supervision of TtNUS personnel in conjunction with the soil boring procedures discussed above in Section 2.2.2. The wells were installed to a depth of 11.5 or 12.5 feet bls. The monitoring wells were placed to provide coverage downgradient of elevated hydrocarbon levels detected in samples from upgradient monitoring wells sampled between July 29 and August 3, 1999.

On August 31 and September 1, 1999, five DPT micro-wells (GH-35, GH-36, GH-37, GH-38 and GH-39) were installed inside the Gas Hill Fuel Farm for reasons discussed in Section 2.2.3 and in conjunction with soil boring activities. The well depths varied between 21 and 25.5 feet bls in order to intercept the water table with approximately 1 foot of screen above it. These micro-wells were placed to provide water level information and to screen the water table inside the Gas Hill Fuel Farm for contaminants.

The installation of the DPT micro-wells began with 2.125-inch OD probe rods advanced to a field-determined depth using a Geoprobe percussion-probing machine. The permanent monitoring well was assembled and installed through the 1.5-inch ID of the probe rods. The wells were constructed with pre-packed screens and 0.5-inch Schedule 80 PVC well riser. The pre-packed screens came in 3-foot sections, which were threaded together to provide 9-foot screens for each well. These screens have an outside diameter of 1.5 inches and an inside diameter of 0.5 inches. The inner component of the pre-packed screens consists of 0.5-inch Schedule 80 PVC with 0.01-inch slots. The outer component of the

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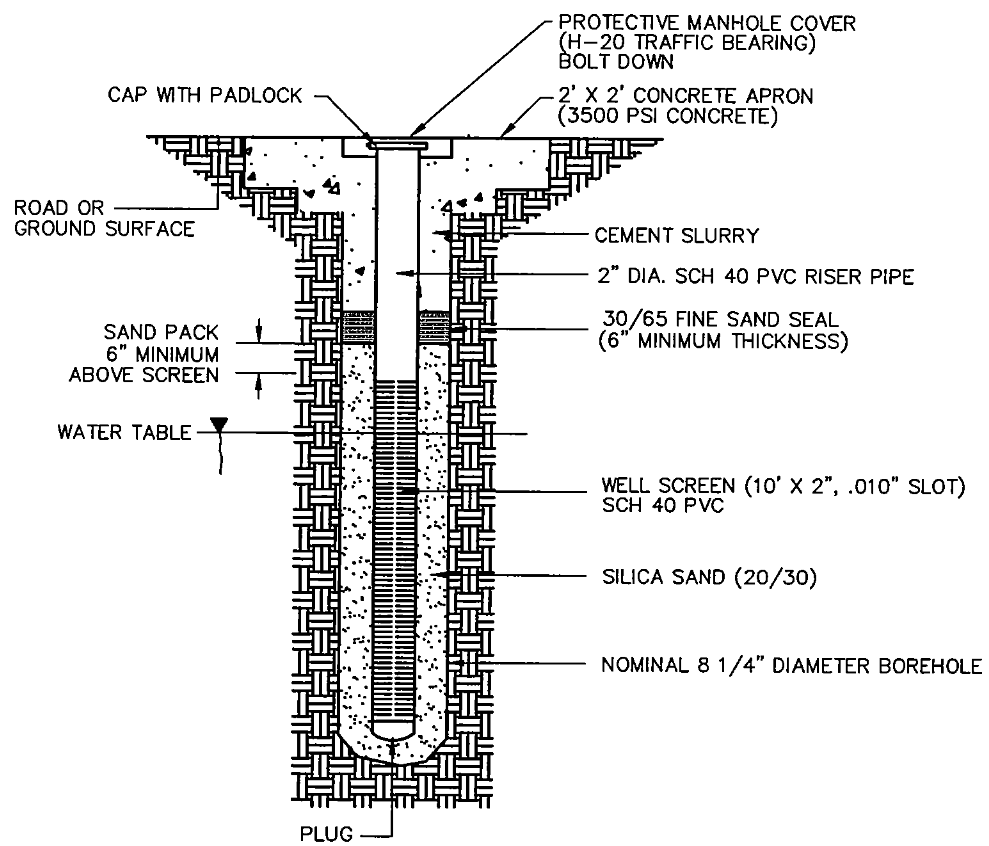
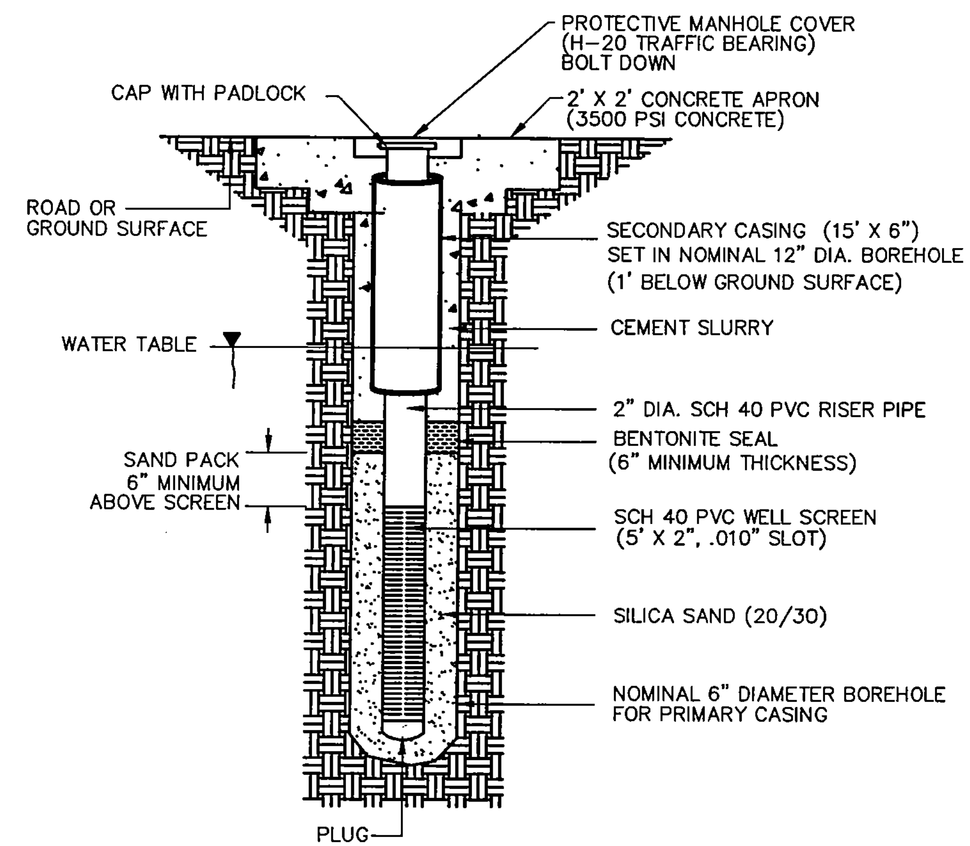


TYPICAL FLUSHMOUNT CONSTRUCTION
SHALLOW MONITORING WELL
NOT TO SCALE



TYPICAL FLUSHMOUNT CONSTRUCTION
VERTICAL EXTENT MONITORING WELL
NOT TO SCALE

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 10/23/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE NONE

MONITORING WELL CONSTRUCTION DETAILS
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 2-1
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

screen is stainless steel wire mesh with a pore size of 0.011 inches. The screens are pre-packed with 20/40-grade silica sand. Once the rods were set at depth, the pre-packed screens were lowered through the probe rods as additional PVC riser was added to the well assembly. The pre-packed screens were attached to an expendable stainless steel anchor on the end of the probe rods by a locking connector threaded to the bottom of the pre-packed screen. When the pre-packed screens were locked into the anchor point the probe rods were retracted. As the rods were retracted above the screens, 20/30-grade silica sand was installed through the rod annulus to a thickness of 1 to 3 feet above the top of the screen. The remainder of the annulus was grouted to the surface with Portland cement.

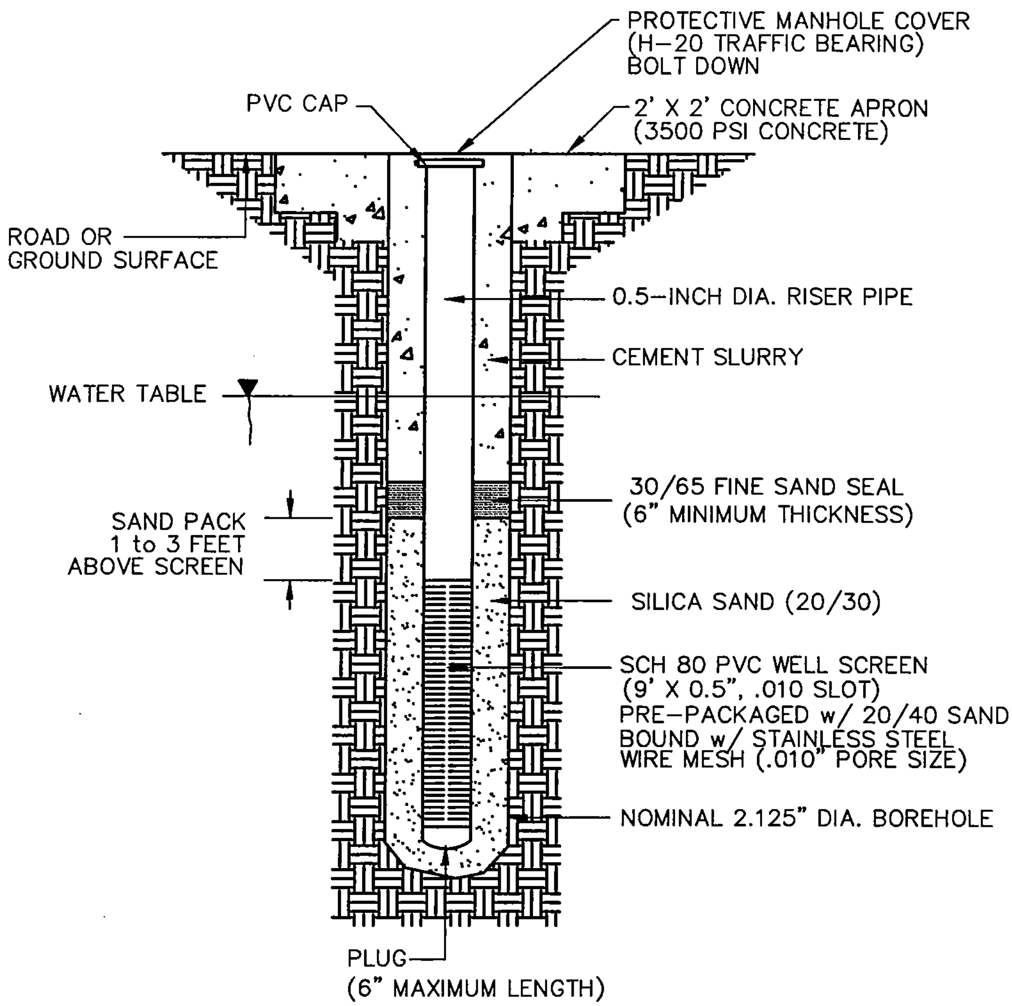
The well is secured with a locking, watertight cap within a steel, 8-inch diameter bolt-down manhole. The manhole was set within a 24-inch square concrete pad, which was finished slightly above grade. A well construction diagram for the micro-wells is included as **Figure 2-2.** The well completion logs are provided in **Appendix E.**

2.4 LITHOLOGIC SAMPLING

Soil samples were collected during the soil vapor assessment\DPT micro-well installation to assess the shallow subsurface geologic conditions inside the Gas Hill Fuel Farm. Grab samples from soil cuttings generated during monitoring well installations were used for lithologic description. Soil samples from the Gas Hill Fuel Farm that were used for lithologic description were collected from a stainless steel split spoon sampler lined with plastic sleeves. Soil boring logs are included as **Appendix A.**

2.5 SOIL ANALYSIS

As previously explained, the CAR (USACE, 1992) adequately (as agreed upon by regulators previously) determined the extent of soil contamination related to Gas Hill Fuel Farm. Since soil data had not previously been collected inside the Gas Hill Fuel Farm, soil samples were collected as explained in Section 2.2.3. The samples were placed in the appropriate bottleware, packed and transported for the following analyses: VOA by EPA Method 8021B; PAH by EPA Method 8310; TRPH by FL-PRO; and, the eight RCRA metals by EPA Method 6010B. The laboratory data reports are included in **Appendix D.**



TYPICAL FLUSHMOUNT CONSTRUCTION
DPT MICRO–WELL
NOT TO SCALE

DRAWN BY LLK	DATE 10/23/99	DPT MICRO–WELL CONSTRUCTION DETAIL GAS HILL FUEL FARM (FACILITY 159) SAR ADDENDUM II NAS JACKSONVILLE JACKSONVILLE, FLORIDA	CONTRACT NO. 0255	
CHECKED BY	DATE		APPROVED BY	DATE
COST/SCHED–AREA			APPROVED BY	DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2–2	REV. 0

FORM CADD NO. SDIV_AV.DWG – REV 0 – 1/20/98

2.6 HYDROGEOLOGIC INVESTIGATION

2.6.1 Water Level Measurements

Water level measurements were collected to determine the depth to water in the surficial aquifer and to determine the relative groundwater flow direction. The depth to water in the existing monitoring wells (GH-1 through GH-27) and the new monitoring wells (GH-28 through GH-31) was measured on July 28, 1999. The depth-to-water data for well GH-18 was not collected because this well could not be located. Measurements were collected from the north rim of the top of the well casings using an electronic oil and water level indicator. No free product was detected in these monitoring wells. Water level measurements were also collected from shallow micro-wells GH-32 through GH-39 on September 2, 1999 using a small-diameter water level indicator. The elevation of the north rim for each top of well casing (GH-28 through GH-39) was surveyed by ARC Surveying (**Table 1-1**). They also surveyed GH-26 and GH-27 to allow for ease of plotting the new monitoring wells on the site plan (**Figure 1-2**), and the elevation data was compared to previous data to determine any differences between previous and present survey data. The newly surveyed top-of-casing data for GH-26 and GH-27 turned out to be exactly 1.2 feet lower than that previously reported (1998b). Therefore, the top-of-casing data for wells GH-1 through GH-27 were lowered by 1.2 feet assuming that the difference was uniform. Elevations are based on North American Vertical Datum (NAVD) 1988 and they were transferred from benchmark "Tidal BM No. 2-14". The published elevation for that benchmark is 15.57 feet. The groundwater elevation was calculated by subtracting the depth to water from the top of casing elevation.

2.6.2 Aquifer Characteristics

The CAR (USACE, 1992) presented groundwater hydraulic conductivity testing data and tidal influence monitoring data on wells GH-6 and GH-12. Therefore, these tasks were not repeated during this investigation.

2.7 GROUNDWATER SAMPLING

2.7.1 Free Product Recovery and Sampling

Free product was not discovered in groundwater monitoring wells GH-1 through GH-31 during this investigation. Due to the size limitations of the well pipe (0.5-inch ID) in micro-wells GH-32 through GH-39, fluid measurements could only be conducted with a water level indicator. However, laboratory data (discussed in Section 3.4) indicate that hydrocarbon concentrations were low in samples from those wells. The data implies that free product was not present in micro-wells GH-32 through GH-39.

2.7.2 Groundwater Sampling of Monitoring Wells and Micro-Wells

Groundwater sampling of monitoring wells and micro-wells was performed to determine the presence or absence of dissolved petroleum hydrocarbons in groundwater in the vicinity of Gas Hill Fuel Farm. Groundwater samples were collected by TtNUS personnel wells as follows: GH-23, GH-25 through GH-31 on July 29, 1999; GH-1, GH-12, GH-14, GH-15, GH-21, GH-22, and GH-24 on July 30, 1999; GH-2, GH-3, GH-9, GH-10, GH-13, GH-16, GH-17, and GH-19 on August 2, 1999; GH-4 through GH-8 and GH-20 on August 3, 1999; GH-32 through GH-37 on September 2, 1999; and, GH-38 and GH-39 on September 3, 1999. As previously indicated, a sample was not collected from GH-18 because that well could not be located. Additionally, GH-11 was not sampled because on two occasions when TtNUS field crews plumbed that well, they encountered an obstruction at about 8 to 9 feet below the top-of-casing. The groundwater samples were analyzed for constituents outlined in the CAP (TtNUS, 1999a) as follows: EPA Method 8021B for VOA, EPA Method 8310 for PAH, EPA Method 239.2 for lead (unfiltered). Prior to sampling, approximately three to five well volumes of groundwater were purged from each well using low flow quiescent sampling methods. Temperature, pH, specific conductance and turbidity measurements and well purge volumes were recorded at the time of sample collection. Groundwater sample log sheets are in **Appendix F**. Groundwater samples were placed on ice and shipped to Accutest Laboratories, Inc., Orlando, Florida.

Sampling activities were performed in general accordance with the procedures prescribed in the FDEP Quality Assurance Sections: Standard Operating Procedures for Laboratory Operations and Sample Collection Activities, (DEP-001/92), adopted by TtNUS' CompQAP. In accordance with DEP-001/92 section 4.4.2, sample preservation was accomplished using pre-preserved containers from a laboratory with an FDEP-approved CompQAP (Accutest Laboratories, Inc.). During the sampling events, quality control samples (e.g. trip blanks and duplicates) were prepared and submitted to the laboratory as required by the CompQAP. Sampling activities were documented in a site-specific field logbook, and samples were transmitted under chain-of-custody protocols to the laboratory. Groundwater laboratory data are included in **Appendix G.**

3.0 RESULTS OF INVESTIGATION

3.1 SITE HYDROGEOLOGY

3.1.1 Lithology

The soil data collected offsite appeared similar to that reported in the CAR's Figure 4-C (USACE, 1992), which indicated mostly silty sands with a thin lens (less than 2 feet thick) of clayey sand on the eastern end of the cross-section at a depth less than 10 feet bls. The soil data from onsite was considered fill dirt and consisted mostly of fine-grained silty sands with the exception being the soils from the boring for well GH-38. Since adequate cross-sections exist from a previous report (USACE, 1993) and our data does not contradict this info, no lithologic cross-section was constructed for this addendum. Soil boring logs are included as **Appendix A.**

3.1.2 Aquifer Characteristics and Classification

The surficial aquifer underlying the Site was classified in the CAR (USACE, 1992) as a G-II aquifer. They also performed aquifer characterization studies to determine hydraulic conductivity, hydraulic gradient, groundwater seepage velocity and transmissivity. During the current investigation, the elevation of the shallow aquifer ranged from 0.37 to 7.36 feet msl. The depth-to-groundwater measurements are presented in **Table 3-1.** The groundwater flow direction for the water table is depicted in **Figure 3-1.** The drastic change in topography from the top of Gas Hill Fuel Farm to the perimeter support the conclusion that the groundwater flows radially off Gas Hill Fuel Farm. The CAR (USACE, 1992) indicated that groundwater flow in the surficial aquifer was generally toward the east, which is toward the St. Johns River.

Table 3-1
Groundwater Elevation and Monitoring Well Construction Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Well Number JAX-159-GH-	Screened Interval Depth (feet, bls)	Top-of Casing Elevation (feet)	June 29 and 30, 1998		September 29 and 30, 1998	
			Depth to Water Below Top of Casing (feet)	Water Elevation (feet)	Depth to Water Below Top of Casing (feet)	Water Elevation (feet)
6	2.0 to 11.0	6.79	5.40	1.39	2.64	4.15
7	1.0 to 10.0	5.94	4.39	1.55	2.69	3.25
8	3.5 to 12.5	11.34	8.29	3.05	5.92	5.42
9	1.0 to 10.0	9.25	8.35	0.90	4.20	5.05
13	1.0 to 10.0	10.44	7.54	2.90	4.89	5.55
14	0.6 to 10.6	9.55	6.73	2.82	4.30	5.25
15	0.7 to 10.7	9.36	6.28	3.08	3.46	5.90
16	0.6 to 10.1	9.32	5.93	3.39	3.33	5.99
17	1.6 to 11.6	8.59	7.43	1.16	4.41	4.18
19	0.8 to 10.8	6.38	3.51	2.87	1.12	5.26
20	30.9 to 36.0	5.89	2.85	3.04	2.72	3.17
22	3.9 to 13.9	10.04	7.72	2.32	4.06	5.98
23	25.0 to 30.0	8.60	5.69	2.91	3.60	5.00
24	2.6 to 12.0	8.73	6.09	2.64	3.43	5.30
25	35.0 to 40.0	5.77	2.50	3.27	1.77	4.00
26	2.0 to 12.0	5.59	3.25	2.34	0.30	5.29
27	30.0 to 35.0	5.93	2.25	3.68	1.25	4.68

Notes: bls= below land surface.

Table 3-1 (Cont'd)
Groundwater Elevation and Monitoring Well Construction Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Well Number JAX-159-GH-	Screened Interval Depth (feet,bls)	Top-of Casing Elevation (feet)	July 28, 1999		September 2, 1999	
			Depth to Water Below Top of Casing (feet)	Water Elevation (feet)	Depth to Water Below Top of Casing (feet)	Water Elevation (feet)
1	1.0 to 10.0	9.02	6.93	2.09	NM	NM
2	1.0 to 10.0	9.29	6.79	2.50	NM	NM
3	1.0 to 10.0	8.38	6.36	2.02	NM	NM
4	1.0 to 10.0	5.36	3.58	1.78	NM	NM
5	1.0 to 10.0	5.67	5.03	0.64	NM	NM
6	2.0 to 11.0	5.59	4.91	0.68	NM	NM
7	1.0 to 10.0	4.74	2.74	2.00	NM	NM
8	3.5 to 12.5	10.14	8.01	2.13	NM	NM
9	1.0 to 10.0	8.05	6.41	1.64	NM	NM
10	1.0 to 10.0	6.97	6.60	0.37	NM	NM
11	29.5 to 33.5	6.09	4.00	2.09	NM	NM
12	29.0 to 33.0	5.92	4.10	1.82	NM	NM
13	1.0 to 10.0	9.24	6.43	2.81	NM	NM
14	0.6 to 10.6	8.35	6.24	2.11	NM	NM
15	0.7 to 10.7	8.16	5.98	2.18	NM	NM
16	0.6 to 10.1	8.12	5.72	2.40	NM	NM
17	1.6 to 11.6	7.39	6.34	1.05	NM	NM
18	1.7 to 10.7	n/a	n/a	n/a	NM	NM
19	0.8 to 10.8	5.18	3.06	2.12	NM	NM
20	30.9 to 36.0	4.69	3.05	1.64	NM	NM
21	31.5 to 36.0	8.81	6.60	2.21	NM	NM
22	3.9 to 13.9	8.84	7.13	1.71	NM	NM
23	25.0 to 30.0	7.40	5.29	2.11	NM	NM
24	2.6 to 12.0	7.53	5.70	1.83	NM	NM
25	35.0 to 40.0	4.57	2.40	2.17	NM	NM
26	2.0 to 12.0	4.39	2.53	1.86	NM	NM
27	30.0 to 35.0	4.73	2.58	2.15	NM	NM
28	30.0 to 35.0	5.07	2.60	2.47	NM	NM
29	3.0 to 13.0	5.16	3.12	2.04	NM	NM
30	3.0 to 13.0	4.97	2.50	2.47	NM	NM
31	3.0 to 13.0	5.47	2.84	2.63	NM	NM
32	2.5 to 11.5	4.05	NM	NM	1.82	2.23
33	2.5 to 11.5	4.62	NM	NM	2.50	2.12
34	3.5 to 12.5	5.59	NM	NM	3.20	2.39
35	15.5 to 24.5		NM	NM	0.00	
36	16.5 to 25.5	22.70	NM	NM	15.34	7.36
37	12.0 to 21.0	19.72	NM	NM	12.59	7.13
38	13.0 to 22.0	21.03	NM	NM	15.10	5.93
39	14.0 to 23.0	18.97	NM	NM	13.70	5.27

Notes: bls=below land surface.
NM=not measured.

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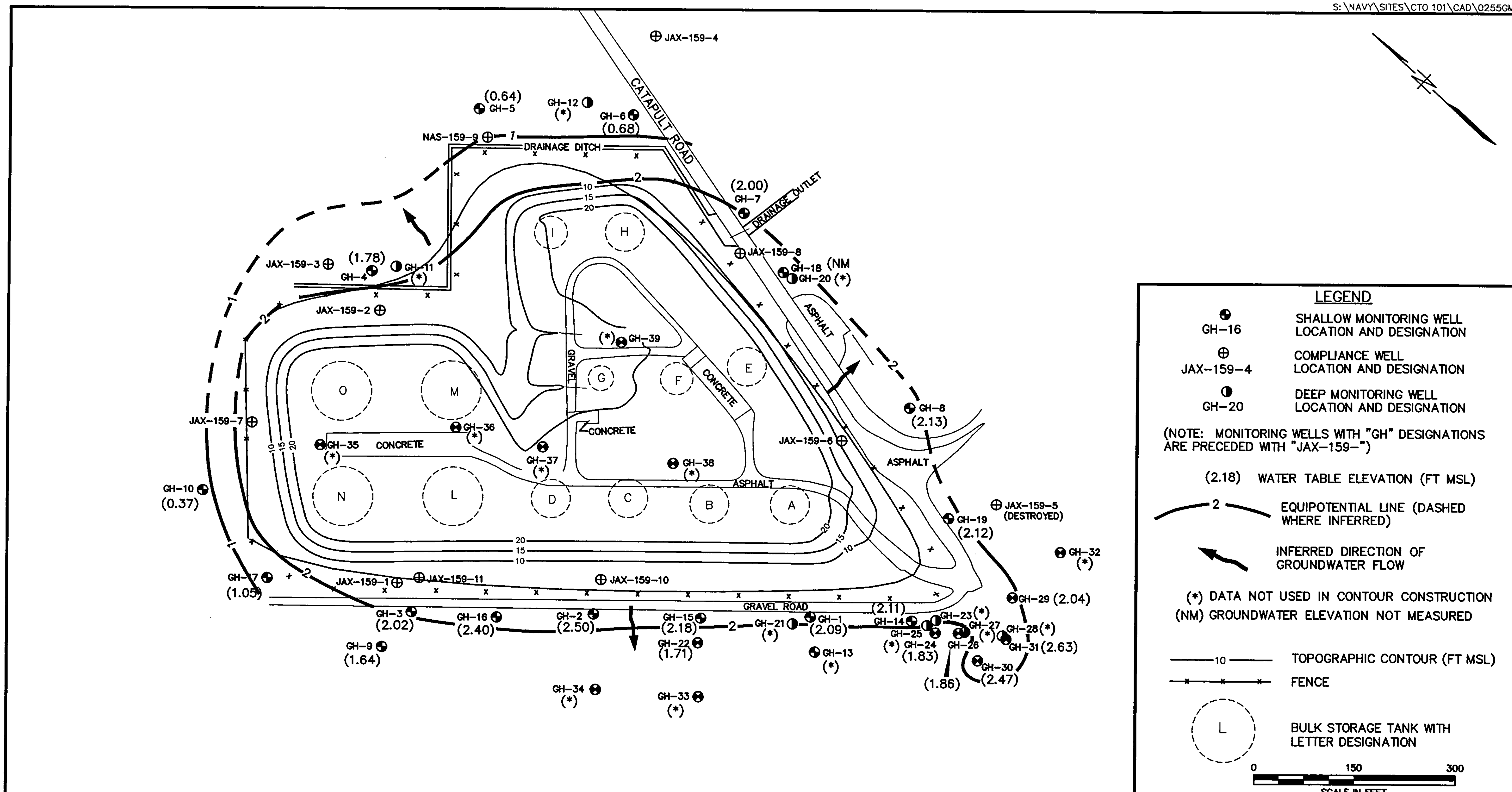

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK — DATE 10/21/99
CHECKED BY — DATE
COST/SCHED-AREA
SCALE AS NOTED

GROUNDWATER ELEVATION CONTOUR MAP
JULY 28, 1999
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY — DATE
APPROVED BY — DATE
DRAWING NO. FIGURE 3-1 — REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

3.2 SOIL QUALITY

As discussed previously, the soil impacts to the Site have been delineated by the CAR (USACE, 1992). During this investigation, TtNUS personnel collected soil vapor concentration data from inside the Gas Hill Fuel Farm, there were vapor concentrations in soils from borings associated with GH-35, GH-38 and GH-39 that indicated the presence of petroleum hydrocarbons in the range of 0 to 800 parts per million (ppm). **Table 3-2** contains the soil OVA-FID data.

As discussed in Section 2.2 and 2.5, soil samples were collected from the zone of highest soil vapor concentration. These soil samples were collected from the boreholes associated with wells GH-35 through GH-39. The depths at which the sampling took place were 16, 4, 4, 14, and 14 feet bls, respectively. The soil samples were collected on August 31 and September 1, 1999, and they were labeled as follows: NASJ-159-GH-35-16, NASJ-159-GH-36-4, NASJ-159-GH-37-4, NASJ-159-GH-38-14, and NASJ-159-GH-39-14.

Soil analytical data were reviewed and compared to Soil Cleanup Target Levels (SCTL) based on leachability of compounds to groundwater from Chapter 62-777. VOA (specifically, ethylbenzene and xylenes below 10 parts per billion) were detected only in the sample from GH-39-14, and those compounds detected were well below the SCTL. There were no detections of TRPH in the soil samples. Though various metals were detected in each of these soil samples, they were below the respective SCTL. With regard to PAH, the only compounds detected were in samples from GH-35-16, GH-37-4, and GH-39-14. When compared to the appropriate SCTL, the soil analytical data indicate that none of the samples exceeded those goals. The laboratory results have been included in **Appendix D.** The results are summarized for PAH data on **Table 3-3**.

3.3 MASS OF CONTAMINANT IN SOIL

The existing area of impacted soil was graphically represented in the CAR Addendum (USACE, 1993). Since the soil analytical data collected for the Gas Hill Fuel Farm during this investigation doesn't indicate additional areas of contamination, this report and will not re-report this information.

Table 3-2
Soil OVA-FID Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Monitoring Well I.D.	Date of Measurement	Sample Depth (feet bls)	Headspace Readings (ppm)		
			Total Organic Reading	Carbon Filtered Reading	Net Reading
GH-35	8/31/99	2	0	NA	0
	8/31/99	4	0	NA	0
	8/31/99	6	0	NA	0
	8/31/99	8	0	NA	0
	8/31/99	10	0	NA	0
	8/31/99	12	0	NA	0
	8/31/99	14	0	NA	0
	8/31/99	16	190	85	105
	8/31/99	18[2]	350	300	50
	8/31/99	20[2]	990	425	565
GH-36	8/31/99	2	0	NA	0
	8/31/99	4	0	NA	0
	8/31/99	6	0	NA	0
	8/31/99	8	0	NA	0
	8/31/99	10	0	NA	0
	8/31/99	12	0	NA	0
	8/31/99	14	0	NA	0
	8/31/99	16	0	NA	0
	8/31/99	18[1]	0	NA	0
GH-37	8/31/99	2	0	NA	0
	8/31/99	4	0	NA	0
	8/31/99	6	0	NA	0
	8/31/99	8	0	NA	0
	8/31/99	10	0	NA	0
	8/31/99	12	0	NA	0
	8/31/99	13	0	NA	0
	8/31/99	14[1]	10	9	1

Table 3-2 (cont'd)
Soil OVA-FID Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Monitoring Well I.D.	Date of Measurement	Sample Depth (feet bls)	Headspace Readings (ppm)		
			Total Organic Reading	Carbon Filtered Reading	Net Reading
GH-38	9/1/99	2	0	NA	0
	9/1/99	4	0	NA	0
	9/1/99	6	0	NA	0
	9/1/99	8	20	19	1
	9/1/99	10	88	25	63
	9/1/99	12	300	251	49
	9/1/99	14	995	600	395
GH-39	9/1/99	2	0	NA	0
	9/1/99	4	0	NA	0
	9/1/99	6	0	NA	0
	9/1/99	8	50	0	50
	9/1/99	10	500	100	400
	9/1/99	12	500	0	500
	9/1/99	14	1000	200	800

Notes: NA=not analyzed.
bls=below land surface.
ppm=part per million equivalent methane.
ND=not determined.
I.D.=inside diameter.
[1] Sample depth below the water table.

Table 3-3
Soil Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP SCTL[1]	NASJ-159-GH-35-16	NASJ-159-GH-36-4	NASJ-159-GH-37-4
		8/31/99	8/31/99	8/31/99
Depth (feet)		16	4	4
Volatile Organic Hydrocarbons (EPA Method 8021) mg/kg				
Ethylbenzene	0.6	0.0011 U	0.0012 U	0.0010 U
m-Xylene & p-Xylene	0.2	0.0020 U	0.0020 U	0.0020 U
Metals (EPA Method 6010) mg/kg				
Arsenic	29	0.60 U	0.60 U	0.60 U
Barium	1600	24 U	22 U	25 U
Chromium	38[2]	2.0	1.6	1.0 U
Lead	***	1.0 U	2.9	1.5
Selenium	5	2.0 U	2.0 U	2.0 U
Polynuclear Aromatic Hydrocarbons (EPA Method 8310) mg/kg				
Fluorene	160	0.0040 U	0.0037 U	0.0042 U
Fluoranthene	1200	0.0040 U	0.0037 U	0.0050 I
Pyrene	880	0.0020 U	0.0019 U	0.0054 I
Benzo (a) anthracene	3.2	0.0020 U	0.0019 U	0.0021 U
Chrysene	77	0.0020 U	0.0019 U	0.0042
Benzo (b) flouranthene	9.8	0.0040 U	0.0030 U	0.0060 I
Benzo (k) fluoranthene	25	0.0020 U	0.0020 U	0.0020 I
Benzo (a) pyrene	7.8	0.0020 U	0.0020 U	0.0080
Dibenzo (a,h) anthracene	14	0.0040 U	0.0037 U	0.012
Benzo (g,h,I) perylene	32000	0.0040 U	0.0037 U	0.012
Indeno (1,2,3-cd) pyrene	28	0.0020 U	0.0019 U	0.0054
1-methylnaphthalene	2.2	0.041	0.037 U	0.042 U
2-methylnaphthalene	6.1	0.044	0.037 U	0.042 U

See Notes at end of table.

Table 3-3 (cont'd)
Soil Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP SCTL[1]	NASJ-159-GH-38-14	NASJ-159-GH-39-14
		9/1/99	9/1/99
Depth (feet)		14	14
Volatile Organic Hydrocarbons (EPA Method 8021) mg/kg			
Ethylbenzene	0.6	0.0015 U	0.0042 I
m-Xylene & p-Xylene	0.2	0.0020 U	0.010 I
Metals (EPA Method 6010) mg/kg			
Arsenic	29	0.60 U	1.8 I
Barium	1600	25 U	32
Chromium	38[2]	1.4	7.0
Lead	***	1.9	28
Selenium	5	2.0 U	2.0
Polynuclear Aromatic Hydrocarbons (EPA Method 8310) mg/kg			
Fluorene	160	0.0042 U	0.0080
Fluoranthene	1200	0.0042 U	0.0080
Pyrene	880	0.0021 U	0.0022 U
Benzo (a) anthracene	3.2	0.0021 U	0.0020 I
Chrysene	77	0.0021 U	0.018
Benzo (b) flouranthene	9.8	0.0040 U	0.0040 U
Benzo (k) fluoranthene	25	0.0020 U	0.0020 U
Benzo (a) pyrene	7.8	0.0020 U	0.0020 U
Dibenzo (a,h) anthracene	14	0.0042 U	0.022
Benzo (g,h,I) perylene	32000	0.0042 U	0.0043 U
Indeno (1,2,3-cd) pyrene	28	0.0021 U	0.0020 I
1-methylnaphthalene	2.2	0.042 U	0.210
2-methylnaphthalene	6.1	0.042 U	0.180

[1]Chapter 62-777, FAC (August 5, 1999). SCTL based on leachability as it affects Groundwater Criteria on Table II.
[2] Value is for hexavalent chromium.
*** Values must be derived.
Notes: EPA = Environmental Protection Agency.
FDEP = Florida Department of Environmental Protection.
SCTL = Soil Cleanup Target Level.
mg/kg = milligrams per kilogram.
U = Compound was analyzed but not detected to the level shown.
I = analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

3.4 WATER QUALITY

3.4.1 Water Table Monitoring Wells

The analytical data for the groundwater samples from the water table monitoring wells were compared to FDEP GCTL. The analytical results from the early August sampling event indicated the GCTL were exceeded in the following water table monitoring wells: GH-1, GH-2, GH-14, GH-15, GH-22, GH-26, and GH-29. With the exception of GH-2, the only GCTL exceeded in the groundwater samples from these monitoring wells was for benzene. The benzene concentrations ranged from 1.2 to 270 micrograms per liter (μg/L). The concentrations reported for the sample from GH-2 for ethylbenzene (38 μg/L) and total xylenes (758 μg/L) exceeded their respective GCTL.

A similar comparison of GCTL values with the results from the sampling (early September) event for the DPT micro-wells indicated that 1- and 2-methylnaphthalene were detected at 99 and 62 μg/L, respectively, in the sample from GH-35, and the sample from GH-39 contained benzene at 3.2 μg/L. These second round results exceeded the respective GCTL. Lead levels for the water table samples from both sampling events were below the method detection level of 0.0060 milligrams per liter (mg/L), which is below the GCTL of 0.015 mg/L. The results for both sampling events are summarized in **Table 3-4**. The benzene concentration data is presented on **Figure 3-2**. The total VOA (TVOA [defined by Chapter 62-770.200(27) as the sum of the concentrations of benzene, toluene, total xylenes and ethylbenzene]) map, as required by Chapter 62-770.600(7)(a)26, is presented on **Figure 3-3**. Since the only remaining concentrations of significance belong to the naphthalene group (naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene), that concentration data is presented on **Figure 3-4**. Groundwater laboratory analytical results are provided as **Appendix G.**

3.4.2 Deep Monitoring Wells

The analytical data for the deep monitoring wells (GH-12, GH-20, GH-21, GH-23, GH-25, GH-27, and GH-28) was reviewed and compared to GCTL data. Only samples from deep monitoring wells GH-23 and GH-27 exceeded GCTL. The sample from GH-23 contained benzene (100 μg/L), ethylbenzene (44 μg/L), and total xylenes (113 μg/L), which exceeded the respective GCTL. The sample from GH-27 contained benzene at 31 μg/L, which exceeds the GCTL for that compound. Lead levels for the deep zone groundwater samples were below the method detection level of 0.0060 milligrams per liter (mg/L), which is below the GCTL of 0.015 mg/L. The benzene concentration data is presented on **Figure 3-2**, the TVOA concentration data is presented on **Figure 3-3**, and the naphthalenes concentration data is presented on **Figure 3-4.** Groundwater laboratory analytical results are provided as **Appendix G**.

Table 3-4
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-1							JAX-159-GH-2						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/30/98	7/30/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/2/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	300	230	NA	NA	NA	NA	130	BDL	1.1	NA	NA	NA	NA	6.0
Toluene	40	400	13	6.5	NA	NA	NA	NA	10 U	BDL	1.9	NA	NA	NA	NA	8.0
Ethylbenzene	30	300	61	30	NA	NA	NA	NA	10 U	7.4	16	NA	NA	NA	NA	38
Total Xylenes	20	200	88	BDL	NA	NA	NA	NA	10 U	14	85	NA	NA	NA	NA	758
MTBE	35	350	39	BDL	NA	NA	NA	NA	20 U	BDL	BDL	NA	NA	NA	NA	10 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	BDL	NA	NA	NA	NA	NA	1.0 U	BDL	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	BDL	NA	NA	NA	NA	NA	1.0 U	BDL	NA	NA	NA	NA	NA	3.3
Naphthalene	20	200	BDL	BDL	NA	NA	NA	NA	0.70 I	BDL	BDL	NA	NA	NA	NA	2.0

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-3							JAX-159-GH-4						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/30/98	8/2/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/3/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	BDL	BDL	NA	NA	NA	NA	1.0 U	BDL	BDL	NA	NA	NA	NA	1.0 U
Toluene	40	400	BDL	BDL	NA	NA	NA	NA	1.0 U	BDL	BDL	NA	NA	NA	NA	1.0 U
Ethylbenzene	30	300	BDL	BDL	NA	NA	NA	NA	1.0 U	BDL	BDL	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	BDL	BDL	NA	NA	NA	NA	1.0 U	BDL	BDL	NA	NA	NA	NA	1.0 U
MTBE	35	350	BDL	BDL	NA	NA	NA	NA	2.0 U	BDL	BDL	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	80	80	NA	NA	NA	NA	3.7	BDL	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	BDL	NA	NA	NA	NA	NA	1.0 U	BDL	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	19	19	NA	NA	NA	NA	0.50 U	BDL	BDL	NA	NA	NA	NA	0.50 U

See Notes at end of table.

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-5							JAX-159-GH-6						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/30/98	8/3/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/30/98	8/3/99
Volatile Organic Compounds (USEPA Method 8021B)(µg/L)																
Benzene	1	100	BDL	BDL	NA	NA	NA	NA	1.0 U	BDL	BDL	ND	ND	ND	ND	1.0 U
Toluene	40	400	BDL	BDL	NA	NA	NA	NA	1.0 U	BDL	BDL	ND	ND	ND	ND	1.0 U
Ethylbenzene	30	300	BDL	BDL	NA	NA	NA	NA	1.0 U	BDL	BDL	ND	ND	ND	ND	1.0 U
Total Xylenes	20	200	BDL	BDL	NA	NA	NA	NA	1.0 U	BDL	BDL	ND	ND	ND	ND	1.0 U
MTBE	35	350	BDL	BDL	NA	NA	NA	NA	2.0 U	BDL	BDL	ND	ND	ND	ND	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)																
1-Methylnaphthalene	20	NL	BDL	NA	NA	NA	NA	NA	1.0 U	BDL	NA	ND	ND	ND	ND	1.0 U
2-Methylnaphthalene	20	NL	BDL	NA	NA	NA	NA	NA	1.0 U	BDL	NA	ND	ND	ND	ND	1.0 U
Naphthalene	20	200	BDL	BDL	NA	NA	NA	NA	0.50 U	BDL	BDL	ND	ND	ND	ND	0.50 U

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-7							JAX-159-GH-8						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/3/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	8/3/99
Volatile Organic Compounds (USEPA Method 8021B)(µg/L)																
Benzene	1	100	BDL	BDL	ND	ND	ND	ND	1.0 U	4.9	BDL	ND	ND	ND	ND	1.0 U
Toluene	40	400	BDL	BDL	ND	ND	ND	ND	1.0 U	BDL	1.2	ND	ND	ND	ND	1.0 U
Ethylbenzene	30	300	BDL	BDL	ND	ND	ND	ND	1.0 U	BDL	BDL	ND	ND	ND	ND	1.0 U
Total Xylenes	20	200	BDL	BDL	ND	ND	ND	ND	1.0 U	BDL	BDL	ND	ND	ND	ND	1.0 U
MTBE	35	350	BDL	BDL	ND	ND	ND	ND	2.0 U	BDL	BDL	ND	ND	ND	ND	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)																
1-Methylnaphthalene	20	NL	BDL	NA	ND	ND	ND	ND	1.0 U	BDL	NA	ND	ND	ND	ND	1.0 U
2-Methylnaphthalene	20	NL	BDL	NA	ND	ND	ND	ND	1.0 U	BDL	NA	ND	ND	ND	ND	1.0 U
Naphthalene	20	200	BDL	BDL	ND	ND	ND	ND	0.50 U	BDL	BDL	ND	ND	ND	ND	0.50 U

See Notes at end of table.

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-9							JAX-159-GH-10						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/2/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/2/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	BDL	BDL	ND	ND	ND	ND	1.0 U	BDL	BDL	NA	NA	NA	NA	1.0 U
Toluene	40	400	BDL	1.4	ND	ND	ND	ND	1.0 U	BDL	BDL	NA	NA	NA	NA	1.0 U
Ethylbenzene	30	300	BDL	BDL	ND	ND	ND	ND	1.0 U	BDL	BDL	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	BDL	BDL	ND	ND	ND	ND	1.0 U	BDL	BDL	NA	NA	NA	NA	1.0 U
MTBE	35	350	BDL	BDL	ND	ND	ND	ND	2.0 U	BDL	BDL	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	BDL	NA	ND	ND	ND	ND	1.0 U	BDL	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	BDL	NA	ND	ND	ND	ND	1.0 U	BDL	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	BDL	BDL	ND	ND	ND	ND	0.50 U	BDL	BDL	NA	NA	NA	NA	0.50 U

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-11							JAX-159-GH-12						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/30/98	7/30/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	7/30/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	BDL	BDL	NA	NA	NA	NA	NA	BDL	BDL	NA	NA	NA	NA	1.0 U
Toluene	40	400	BDL	BDL	NA	NA	NA	NA	NA	BDL	BDL	NA	NA	NA	NA	1.0 U
Ethylbenzene	30	300	BDL	BDL	NA	NA	NA	NA	NA	BDL	BDL	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	BDL	BDL	NA	NA	NA	NA	NA	BDL	BDL	NA	NA	NA	NA	1.0 U
MTBE	35	350	BDL	BDL	NA	NA	NA	NA	NA	BDL	BDL	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	BDL	NA	NA	NA	NA	NA	NA	BDL	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	BDL	NA	NA	NA	NA	NA	NA	BDL	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	BDL	150	NA	NA	NA	NA	NA	BDL	BDL	NA	NA	NA	NA	0.50 U
See Notes at end of table.																

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-13							JAX-159-GH-14						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/2/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	7/30/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	2.0	BDL	ND	ND	ND	ND	1.0 U	NA	58.0	830	13	1160	19.0	270
Toluene	40	400	BDL	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	31	ND	83.4	ND	20 U
Ethylbenzene	30	300	BDL	BDL	ND	ND	ND	ND	1.4	NA	BDL	52	ND	186	ND	20 U
Total Xylenes	20	200	BDL	BDL	ND	ND	ND	ND	14.5	NA	BDL	139	ND	693	ND	20 U
MTBE	35	350	BDL	BDL	ND	ND	ND	ND	2.0 U	NA	BDL	ND	ND	ND	ND	40 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	BDL	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	ND	ND	1.0 U
2-Methylnaphthalene	20	NL	BDL	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	ND	ND	1.0 U
Naphthalene	20	200	BDL	BDL	ND	ND	ND	ND	0.50 U	NA	BDL	ND	ND	ND	ND	0.90

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-15							JAX-159-GH-16						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	7/30/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/2/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	850	94	280	287	308	260	NA	BDL	ND	ND	ND	ND	1.0 U
Toluene	40	400	NA	200	10	ND	6.2	2.7	20 U	NA	BDL	ND	ND	ND	ND	1.0 U
Ethylbenzene	30	300	NA	54	11	15	14.9	8.9	20 U	NA	BDL	ND	ND	ND	ND	1.0 U
Total Xylenes	20	200	NA	190	26	ND	13.5	3.3	20 U	NA	BDL	ND	ND	ND	ND	1.0 U
MTBE	35	350	NA	BDL	ND	ND	ND	ND	40 U	NA	BDL	ND	ND	ND	ND	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	NA	ND	ND	ND	ND	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	ND	ND	ND	ND	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
Naphthalene	20	200	NA	BDL	ND	ND	ND	ND	1.7	NA	BDL	ND	ND	ND	ND	0.50 U

See Notes at end of table.

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-17							JAX-159-GH-18						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/2/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/2/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	NA	NA	NA	NA	NA
Toluene	40	400	NA	BDL	ND	ND	ND	ND	1.0 U	NA	2.3	NA	NA	NA	NA	NA
Ethylbenzene	30	300	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	NA	NA	NA	NA	NA
Total Xylenes	20	200	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	NA	NA	NA	NA	NA
MTBE	35	350	NA	BDL	ND	ND	ND	ND	2.0 U	NA	BDL	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	NA	NA	NA	NA	NA
2-Methylnaphthalene	20	NL	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	NA	NA	NA	NA	NA
Naphthalene	20	200	NA	BDL	ND	ND	ND	ND	0.50 U	NA	BDL	NA	NA	NA	NA	NA

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-19							JAX-159-GH-20						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/2/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	8/3/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	BDL	22	ND	20.4	ND	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
Toluene	40	400	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
Ethylbenzene	30	300	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
Total Xylenes	20	200	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
MTBE	35	350	NA	BDL	ND	ND	ND	ND	2.0 U	NA	BDL	ND	ND	ND	ND	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
2-Methylnaphthalene	20	NL	NA	BDL	ND	ND	ND	ND	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
Naphthalene	20	200	NA	BDL	ND	ND	ND	ND	0.50 U	NA	BDL	ND	ND	ND	ND	0.50 U

See Notes at end of table.

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-21							JAX-159-GH-22						
			1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	7/30/99	1/10/92	2/9/93	9/4/97	12/4/97	6/30/98	9/29/98	7/30/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	BDL	NA	NA	NA	NA	1.0 U	NA	BDL	ND	ND	1.5	ND	1.2
Toluene	40	400	NA	BDL	NA	NA	NA	NA	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
Ethylbenzene	30	300	NA	BDL	NA	NA	NA	NA	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
Total Xylenes	20	200	NA	BDL	NA	NA	NA	NA	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
MTBE	35	350	NA	BDL	NA	NA	NA	NA	2.0 U	NA	BDL	ND	ND	ND	ND	2
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	BDL	NA	NA	NA	NA	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
2-Methylnaphthalene	20	NL	NA	BDL	NA	NA	NA	NA	1.0 U	NA	BDL	ND	ND	ND	ND	1.0 U
Naphthalene	20	200	NA	BDL	NA	NA	NA	NA	0.50 U	NA	BDL	ND	ND	ND	ND	0.50 U

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-23							JAX-159-GH-24						
			1/10/92	2/9/93	9/4/97	12/5/97	6/29/98	9/29/98	7/29/99	1/10/92	2/9/93	9/4/97	12/5/97	6/29/98	9/29/98	7/30/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	NA	630	620	202	296	100	NA	NA	650	260	823	ND	1.0 U
Toluene	40	400	NA	NA	36	70	6.4	27.7	12	NA	NA	34	10	44.4	ND	1.0 U
Ethylbenzene	30	300	NA	NA	230	280	46.1	143	44	NA	NA	50	24	83.8	ND	3.2
Total Xylenes	20	200	NA	NA	590	830	45.0	436	113	NA	NA	122	38	209	ND	2.1
MTBE	35	350	NA	NA	14	ND	ND	ND	10 U	NA	NA	ND	ND	ND	ND	3.5
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	ND	ND	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	ND	ND	1.0 U
Naphthalene	20	200	NA	NA	ND	ND	ND	ND	4.3	NA	NA	ND	ND	ND	ND	0.90

See Notes at end of table.

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-25							JAX-159-GH-26						
			1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	7/29/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	7/29/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	NA	ND	ND	1.2	ND	1.0 U	NA	NA	ND	ND	897	32	9.9
Toluene	40	400	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	60.1	ND	1.0 U
Ethylbenzene	30	300	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	119	5.6	1.0 U
Total Xylenes	20	200	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	303	ND	1.0 U
MTBE	35	350	NA	NA	ND	ND	ND	ND	2.0 U	NA	NA	ND	ND	ND	ND	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	ND	ND	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	ND	ND	ND	ND	1.0 U
Naphthalene	20	200	NA	NA	ND	ND	ND	ND	0.50 U	NA	NA	ND	ND	ND	ND	0.50 U

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-27							JAX-159-GH-28						
			1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	7/29/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	7/29/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	NA	ND	ND	3.4	122	31	NA	NA	NA	NA	NA	NA	1.0 U
Toluene	40	400	NA	NA	ND	ND	ND	3.8	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Ethylbenzene	30	300	NA	NA	ND	ND	ND	17.2	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	NA	NA	ND	ND	ND	12.1	1.0 U	NA	NA	NA	NA	NA	NA	4.7
MTBE	35	350	NA	NA	ND	ND	ND	ND	2.0 U	NA	NA	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	ND	ND	ND	ND	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	NA	NA	ND	ND	ND	ND	0.50 U	NA	NA	NA	NA	NA	NA	0.50 U
See Notes at end of table.																

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-29							JAX-159-GH-30						
			1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	7/29/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	7/29/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	NA	NA	NA	NA	NA	47	NA	NA	NA	NA	NA	NA	1.0 U
Toluene	40	400	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Ethylbenzene	30	300	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
MTBE	35	350	NA	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	2.3
2-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	NA	NA	NA	NA	NA	NA	0.50 U	NA	NA	NA	NA	NA	NA	0.50 U

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-31							JAX-159-GH-32						
			1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	7/29/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	9/2/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Toluene	40	400	NA	NA	NA	NA	NA	NA	5.6	NA	NA	NA	NA	NA	NA	1.2 I
Ethylbenzene	30	300	NA	NA	NA	NA	NA	NA	1.8	NA	NA	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	NA	NA	NA	NA	NA	NA	11.7	NA	NA	NA	NA	NA	NA	1.0 U
MTBE	35	350	NA	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	NA	NA	NA	NA	NA	NA	0.50 U	NA	NA	NA	NA	NA	NA	0.50 U

See Notes at end of table.

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-33							JAX-159-GH-34						
			1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	9/2/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	9/2/99
Volatile Organic Compounds (USEPA Method 8021B)(µg/L)																
Benzene	1	100	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Toluene	40	400	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Ethylbenzene	30	300	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
MTBE	35	350	NA	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)																
1-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	NA	NA	NA	NA	NA	NA	0.50 U	NA	NA	NA	NA	NA	NA	0.50 U

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-35							JAX-159-GH-36						
			1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	9/2/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	9/2/99
Volatile Organic Compounds (USEPA Method 8021B)(µg/L)																
Benzene	1	100	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Toluene	40	400	NA	NA	NA	NA	NA	NA	4.0	NA	NA	NA	NA	NA	NA	2
Ethylbenzene	30	300	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
MTBE	35	350	NA	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)																
1-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	99	NA	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	62	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	NA	NA	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	NA	NA	0.50 U

See Notes at end of table.

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-37							JAX-159-GH-38						
			1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	9/2/99	1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	9/3/99
Volatile Organic Compounds (USEPA Method 8021B)(ug/L)																
Benzene	1	100	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Toluene	40	400	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.1 I
Ethylbenzene	30	300	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
MTBE	35	350	NA	NA	NA	NA	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	2.0 U
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(ug/L)																
1-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	NA	NA	NA	NA	NA	NA	0.50 U	NA	NA	NA	NA	NA	NA	0.50 U

See Notes at end of table.

Table 3-4 (cont'd)
Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

Compound	FDEP GCTL[1]	FDEP NADSC[1]	JAX-159-GH-39						
			1/10/92	2/9/93	9/4/97	12/4/97	6/29/98	9/29/98	9/3/99
Volatile Organic Compounds (USEPA Method 8021B)(µg/L)									
Benzene	1	100	NA	NA	NA	NA	NA	NA	3.2
Toluene	40	400	NA	NA	NA	NA	NA	NA	1.8
Ethylbenzene	30	300	NA	NA	NA	NA	NA	NA	1.0 U
Total Xylenes	20	200	NA	NA	NA	NA	NA	NA	1.0 U
MTBE	35	350	NA	NA	NA	NA	NA	NA	3.5
Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)									
1-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U
2-Methylnaphthalene	20	NL	NA	NA	NA	NA	NA	NA	1.0 U
Naphthalene	20	200	NA	NA	NA	NA	NA	NA	0.50 U

[1]Chapter 62-777, Florida Administrative Code (FAC) (August 5, 1999).

Notes: USEPA = U.S. Environmental Protection Agency.
FDEP = Florida Department of Environmental Protection.
GCTL = Groundwater Cleanup Target Level.
NADSC = Natural Attentuation Default Source Concentrations.
NL = not listed in Chapter 62-770, FAC.
µg/L = microgram per liter.
ND = none detected.
MTBE = methyl tert butyl ether.
NA = not analyzed.
BDL = below detection limit.
U = compound was not detected above the level shown
I = analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL)

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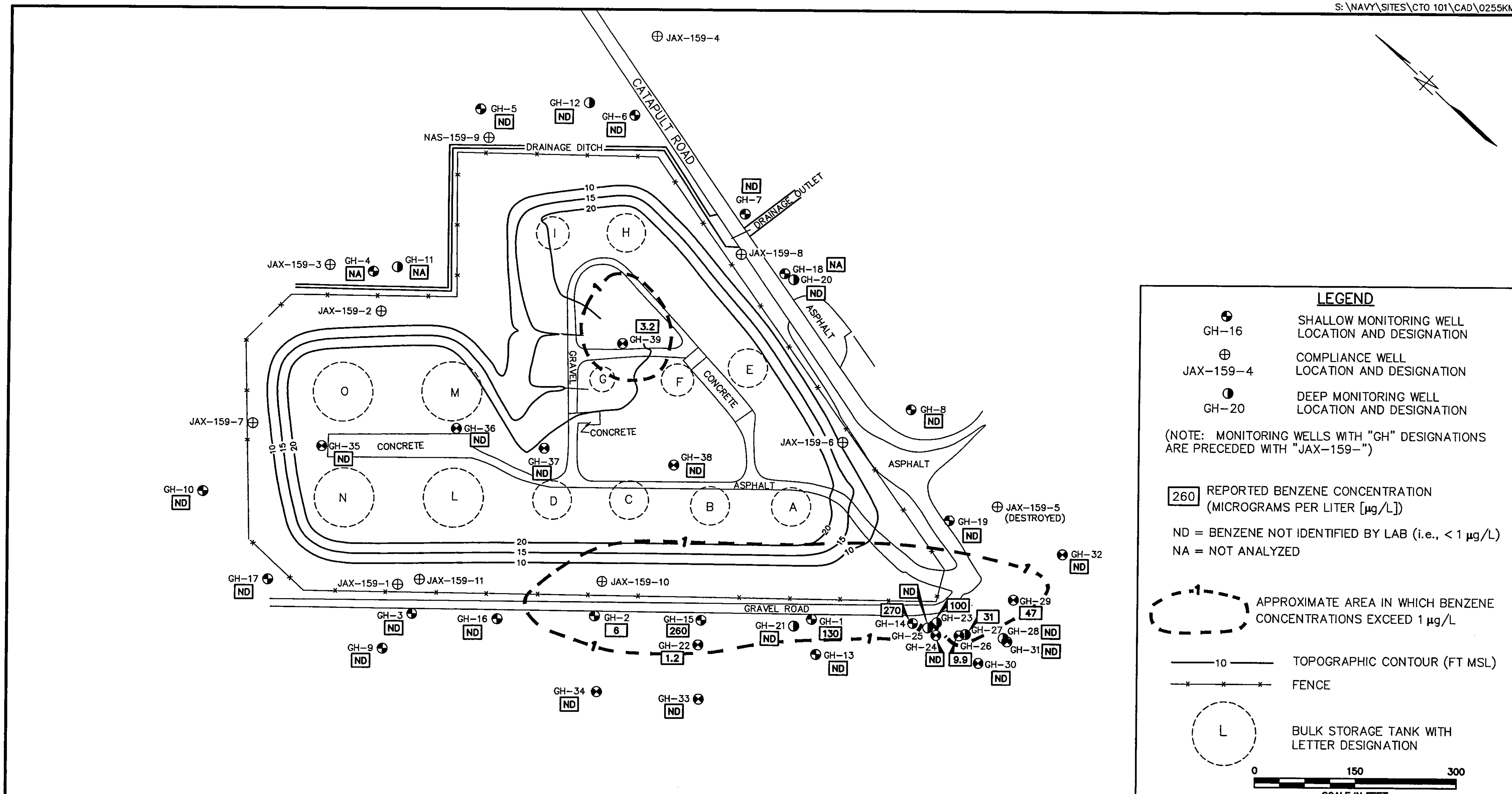

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 10/21/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

GROUNDWATER BENZENE CONCENTRATIONS
JULY-SEPTEMBER 1999
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-2
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

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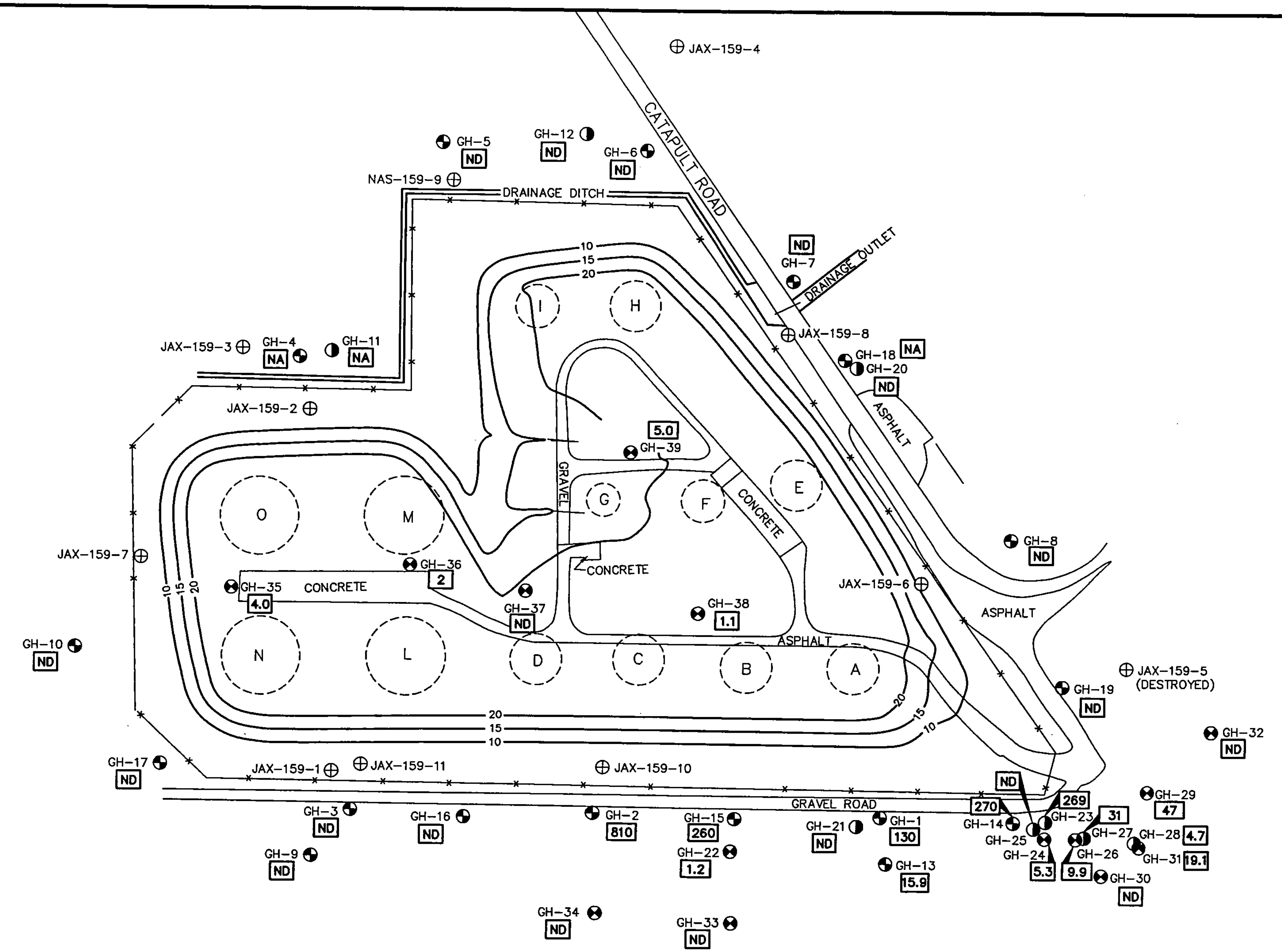


LEGEND

GH-16	SHALLOW MONITORING WELL LOCATION AND DESIGNATION
JAX-159-4	COMPLIANCE WELL LOCATION AND DESIGNATION
GH-20	DEEP MONITORING WELL LOCATION AND DESIGNATION

(NOTE: MONITORING WELLS WITH "GH" DESIGNATIONS ARE PRECEDED WITH "JAX-159-")

$\boxed{260}$ REPORTED TVOA CONCENTRATION (MICROGRAMS PER LITER [μg/L])

ND = VOA COMPOUNDS NOT IDENTIFIED BY LAB

NA = NOT ANALYZED

——10—— TOPOGRAPHIC CONTOUR (FT MSL)

—x—x— FENCE

L BULK STORAGE TANK WITH LETTER DESIGNATION

0 150 300
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

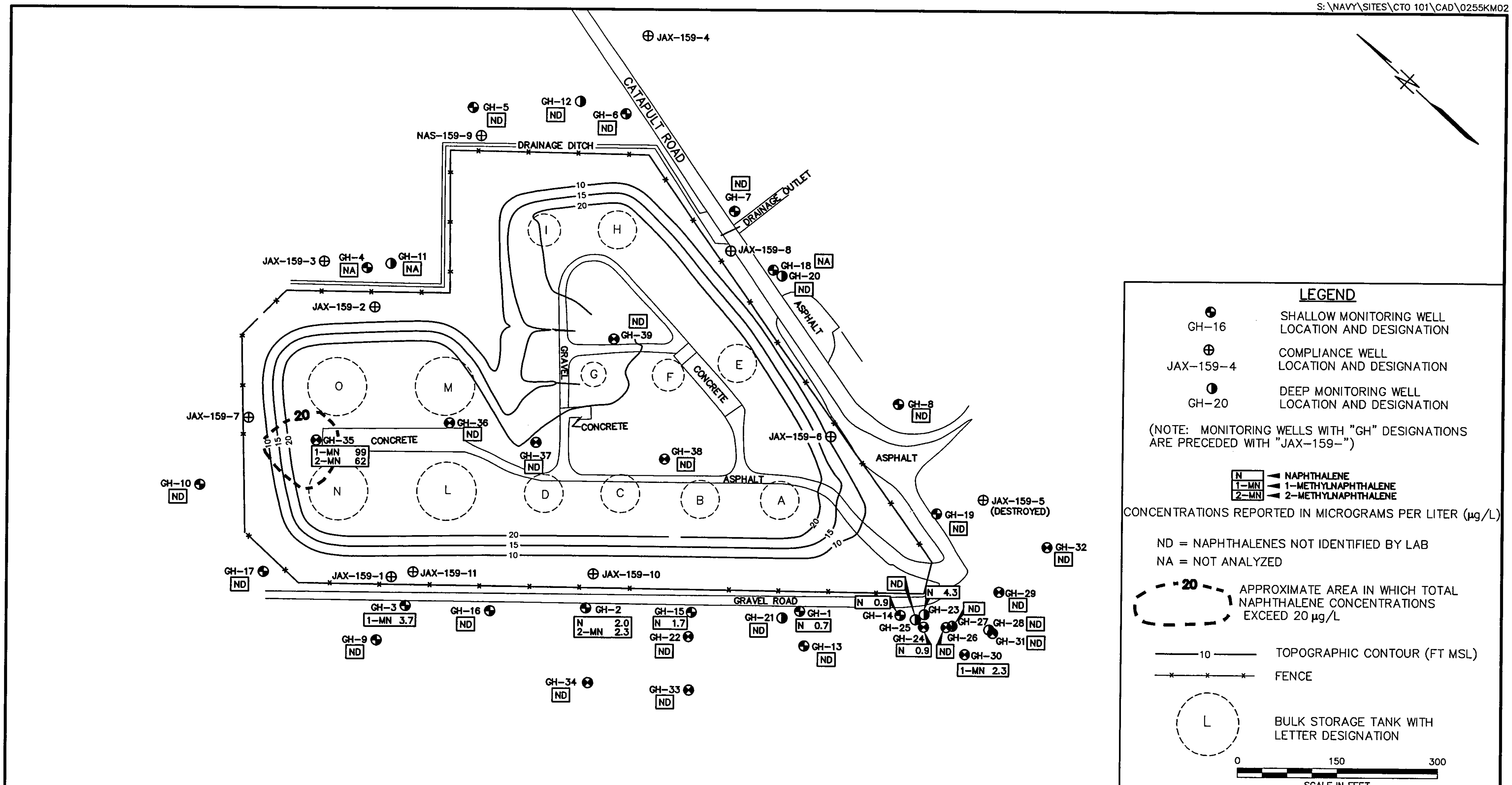
DRAWN BY LLK DATE 11/10/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMMAND

GROUNDWATER TVOA CONCENTRATIONS
JULY-SEPTEMBER 1999
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-3 REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY LLK DATE 10/21/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

GROUNDWATER NAPHTHALENES CONCENTRATIONS
JULY–SEPTEMBER 1999
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-4 REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

4.0 DISCUSSION

4.1 HISTORICAL SUMMARIES

The CAR (USACE, 1992) and the CAR Addendum (USACE, 1993) summarized the particular environmental conditions for Gas Hill Fuel Farm within the limits set by each investigation's scope of work. The CAR summarized Site conditions as follows:

1. Three aquifers exist under Gas Hill Fuel Farm – the surficial, shallow rock, and the Floridan.
2. Unconsolidated, brown, fine-grained sands and silty sands exist under the Site to about 18 feet and are underlain by locally prevalent fat clay appeared to be several feet thick.
3. Groundwater was encountered at about 2 feet bls in the off site wells and the flow direction of the surficial aquifer appeared to be east toward the St. Johns River.
4. Free-floating product was found in a previously installed monitoring well (JAX-159-2) with a thickness of 0.3 feet.
5. VOA, PAH, and lead were detected in groundwater at the Site.
6. The vertical extent of contamination did not exceed 25 feet bls.
7. Potable wells identified during the investigation were more than 0.5 mile from the Site and upgradient.
8. Analyses of groundwater samples collected from monitoring wells downgradient of the Site only detected benzene at 4.9 μg/L in GH-8.

The addendum to the CAR summarized its data as follows:

1. Soil contamination exists outside the fenced area of Gas Hill Fuel Farm in two areas, both of which were considered extensions of contaminated areas inside the fence.
2. Groundwater contamination was encountered offsite near the southwestern corner of the fuel farm.
3. A ditch on the northeast side of Gas Hill Fuel Farm occasionally received free product seeping from the Site especially during times of high rainfall, and sediment samples from that ditch indicated the presence of PAH.

The addendum to the CAR found that the lithology as described was incomplete and several cross-sections in the addendum showed that the clay layer was not as continuous as previously thought on the southeast side of Gas Hill Fuel Farm. Several preventive measures were adopted to address contamination at the Site. At a meeting held in May 1993 between the FDEP, the Navy, and the USACE, the initial recommendation from the CAR (1992) to prepare a RAP was changed to an interim Monitoring Only Plan (MOP) which would last about two years.

Eventually, the MOP was granted; however, monitoring well GH-14 (**Figure 1-2**) continued to show elevated levels of VOA. Since this well was furthest downgradient on the southeast side of the Site, two shallow wells (GH-24 and GH-26) and three deep wells (GH-23, GH-25 and GH-27) were installed in 1997 downgradient of GH-14 to track the plume both horizontally and vertically. Following installation and sampling of wells (GH-6 through GH-10, GH-13 through GH-17, GH-19, GH-20, and GH-22 through GH-27) at the Site, the horizontal extent of the plume was delineated. Samples from the following downgradient wells were reported free of petroleum hydrocarbons: GH-13, GH-22 and GH-26. As for the vertical extent wells, no hydrocarbons were detected in monitoring wells GH-25 and GH-27, which covered screened depth intervals of 35 to 40 feet bls and 30 to 35 feet bls, respectively. During sampling events in 1998, the benzene levels in GH-26 exceeded the GCTL (**Table 3-4**). The plume appeared to be moving downgradient (TtNUS, 1998b) in the vertical extent monitoring well GH-27, which began to show increases in the concentrations of benzene and other VOA. Although samples from GH-25 collected in June 1998 contained 1.2 µg/L of benzene, subsequent sampling events have indicated the interval from 35 to 40 feet bls is free of hydrocarbons.

4.2 SOIL DISCUSSION

Since the soil was delineated in the CAR and CAR Addendum (USACE, 1992 and 1993), the only soil assessment approached by this investigation involved screening the soils inside the Gas Hill Fuel Farm. Although the OVA-FID data for soils (**Table 2-1**) from borings associated with GH-35, GH-38 and GH-39 indicated excessively contaminated soils (corrected readings greater than 50 ppm for the Kerosene Analytical Group), the resultant laboratory analytical data show this data is not relevant (**Table 3-3**) in accordance with Chapter 62-770.200(12). The various concentrations of petroleum hydrocarbons and metals that were detected were less than the appropriate SCTL based on leachability to groundwater.

4.3 GROUNDWATER DISCUSSION

4.3.1 Water Table

Based on the last round of groundwater analytical data from July 1998, the first phase of this groundwater investigation included the installation of three water table wells (GH-29 through GH-31) to delineate the water table contaminant plume around the southeast corner of the Site. The analytical results (**Table 3-4**) for the first round of groundwater sampling (from early August 1999) indicated that additional wells would be necessary downgradient of GH-2, GH-22, and GH-29 to delineate the water table contaminant plume. **Figures 3-2 through 3-4** show the various chemical concentrations of concern for these three wells, and the DPT micro-wells installed approximately 100 feet downgradient of them (GH-34, GH-33, and GH-32, respectively). **Table 3-4** indicates that the second round of analytical collected in early September 1999 reported no detectable hydrocarbons in samples from GH-32 through GH-34. So the water table plume appears to be delineated for the present.

Also, two of the micro-wells inside the Gas Hill Fuel Farm, GH-35 and GH-39 yielded contaminated samples, which exceeded GCTLs, as mentioned in Section 3.4.1. Although the semi-volatile compounds encountered in micro-well GH-35 may disperse below the water table, their concentrations in the shallow zone (near the source) are not significantly higher than GCTLs. Therefore, we do not anticipate concentrations exceeding GCTLs to be present at lower depths. Additionally, the geologic cross-section A to A' (USACE, 1993) indicates that a continuous clay layer exists across the northern part of the site, which would be coincident with the area of micro-well GH-35. The clay layer is drawn on the cross-section from approximately 5 to 20 feet bls, which would prevent deeper vertical migration. Thus contaminant migration associated with the plume around micro-well GH-35 would be confined mostly to the water table, which is currently delineated. Since only light non-aqueous phase liquids (LNAPL) were encountered in micro-well GH-39 and sufficient monitoring well coverage exists around the well, the LNAPL plume associated with it is considered delineated.

4.3.2 Deep Wells

The Quarterly Groundwater Monitoring Report (TtNUS, 1998b) recommended further delineation southeast of the Site in part because of the groundwater contamination encountered in samples from deep monitoring well GH-27. Based on the 1998 groundwater analytical data, monitoring well GH-28 was installed at the same depth interval (30 to 35 feet bls) and approximately 50 feet downgradient of deep monitoring well GH-27. Though the July 1999 groundwater sample from GH-27 contained 31 μg/L of benzene, the groundwater sample collected on the same day from GH-28 was reported to contain only 4.7 μg/L of total xylenes, which is below the GCTL of 20 μg/L for that compound (**Table 3-4**). This data indicate that the contamination at this 30 to 35-foot interval is delineated for the present, but the leading edge of the deep-zone contamination plume appears to have reached monitoring well GH-28 as evidenced by the 4.7 μg/L of total xylenes detected in its groundwater sample.

The deepest monitoring well in the same area as GH-27 is GH-25, and it covers a depth interval of 35 to 40 feet bls. The analytical data (**Table 3-4**) indicates that none of the chemicals of concern were detected in samples from GH-25. So, the vertical extent of contamination appears to be confined to the interval from the water table to no greater than 35 feet bls.

4.3.3 Natural Attenuation

The groundwater analytical data (**Table 3-4**) was compared to the FDEP's Natural Attenuation Default Source Concentration (NADSC) values from Chapter 62-777's Table V (FAC). The NADSC for benzene (100 µg/L) was exceeded in the groundwater samples from water table monitoring wells GH-1 (130 µg/L), GH-14 (270 µg/L), and GH-15 (260 µg/L). Also, the NADSC for total xylenes (200 µg/L) was exceeded in the groundwater sample from water table monitoring well GH-2 (758 µg/L). It appears that no other groundwater samples exceeded the NADSC values. **Figure 1-2** shows that monitoring wells GH-1, GH-2, GH-14 and GH-15 are situated consecutively in a line paralleling the gravel road on the southwest side of Gas Hill Fuel Farm. These wells are located within the delineated bounds of the benzene contaminant plume shown by **Figure 3-2**.

5.0 CONCLUSIONS AND RECOMMENDATION

The results of this investigation at Gas Hill Fuel Farm concluded that:

1. No potable wells were identified within a 0.5-mile radius of the Site, and the potable wells identified in the area appear to be upgradient of the Site.
2. The St. Johns River is about 2,000 feet downgradient of the Site.
3. Excessive soil contamination areas outside of the tank farm were delineated in previous reports.
4. The groundwater flows radially outward from Gas Hill Fuel Farm.
5. As a result of the drastic change in topography of the tank farm, the groundwater flow is radially outward off the site. Based on the CAR, the assumed regional groundwater flow near the site is easterly toward the St. Johns River, which is approximately 2,000 feet east of the site.
6. The area outside and southeast of Gas Hill Fuel Farm has an LNAPL contaminant plume that is presently delineated in the horizontal extent as shown by **Figure 3-2** and **3-3.** And, as indicated by Section 4.3.2, the vertical extent of the LNAPL plume has been delineated in that area. Additionally, the semi-volatile contamination in that same area (**Figure 3-4**) indicates concentrations below respective GCTL. In consideration of these items and the maximum depth of contamination in that area (35 feet bls), no further horizontal and vertical groundwater investigation is recommended in that area for the present.
7. The groundwater analytical from inside the Gas Hill Fuel Farm indicate that the semi-volatile contamination detected in micro-well GH-35 is delineated by the following: a combination of low PAH concentrations in relation to GCTLs, which should not impact the lower depths as the plume disperses; a shallow continuous clay layer in that area to prevent vertical migration; and, monitoring wells around it which have not shown similar chemicals of concern.
8. The LNAPL contamination at micro-well GH-39 is defined within the Tank Farm.
9. The review of FDEP NADSC guidelines indicate that the combination of soil impacts identified in the CAR Addendum (USACE, 1993) and the groundwater impacts which exceed guidelines along the southwest perimeter of the Site preclude consideration of a monitoring only program for Gas Hill Fuel Farm at this time.

In conclusion, TtNUS recommends preparation of a RAP to address the soil and groundwater impacts at Gas Hill Fuel Farm.

REFERENCES

Nuzie, E.S., 1992. Florida Department of Environmental Protection Letter Regarding Technical Review of the Contamination Assessment Report for Facility 159-Gas Hill Fuel Farm, December.

State of Florida, 1997. Florida Administrative Code Chapter 62-770: Petroleum Contamination Site Cleanup Criteria, September.

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Tetra Tech NUS, Inc., 1998b. Groundwater Monitoring Report for Gas Hill Fuel Farm, Hawkin's 103rd and Tank 119, Naval Air Station Jacksonville, Jacksonville, Florida. Prepared for the Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, December.

Tetra Tech NUS, Inc., 1999a. Contamination Assessment Plan for Gas Hill Fuel Farm, Naval Air Station Jacksonville, Jacksonville, Florida. Prepared for the Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, May.

Tetra Tech NUS, Inc., 1999b. Facsimile between M. Dale (TtNUS) and D. Ford (Navy) regarding potable water well data update for Gas Hill Fuel Farm, Jacksonville, Florida, October.

Tetra Tech NUS, Inc., 1999c. Phone conversation between M. Dale (TtNUS) and B. Bunker (Navy) regarding storage tank status at Gas Hill Fuel Farm, Jacksonville, Florida, October.

U.S. Army Corps of Engineers, 1992. Contamination Assessment Report for Naval Air Station Jacksonville, Facility 159-Gas Hill Fuel Farm, Jacksonville, Florida (Draft). Prepared for the Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, September.

U.S. Army Corps of Engineers, 1993. Addendum I to Contamination Assessment Report for Naval Air Station Jacksonville, Facility 159-Gas Hill Fuel Farm, Jacksonville, Florida. Prepared for the Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, November.

APPENDIX A

SOIL BORING LOGS

N0255.FB0.050.225

OVA-FID LOG

Project Number: Well I.D. NASJ-159-GH-35 Boring No. 4

Date 8/31/99

Project Location: NAS Jax / Gas Hill

Prepared by: E. Parker

Sample Container Glass Jars

Soil Boring or Monitor Well ID No.	Sampling Depth (ft bls)	Brief Lithologic Description	Hydrocarbon Odor: NONE	Hydrocarbon Odor: SLIGHT	Hydrocarbon Odor: MOD	Hydrocarbon Odor: STRONG	OVA-FID Measurement: Unfiltered	OVA-FID Measurement: Filtered	OVA-FID Measurement: Net
~~NAS~~ see above	0-2	silty sand, brown, dry, FG	✓				0		0
	2-4	FG silty sand, mix light brown & brown, dry	✓				0		0
	4-6	FG silty sand, light brn, dry	✓				0		0
	6-8	FG silty sand, white, damp	✓				0		0
	8-10	FG s silty	✓				0		0
	10-12		✓				0		0
	12-14		✓				0		0
	14-16			✓			190	85	105
	16-18					✓	350	300	50
	18-20	wet @ 17.5 ft. bls. above ~~water~~				✓	990	425	565

Note: OVA samples taken at bottom of interval indicated.

Drilling Area Background = 0 ppm

Note: For lithologic description, see field book.

TETRA TECH NUS, INC.

N0255. FBO. 050. 225

OVA-FID LOG

Project Number: Well ID NAS5-159-GH-36 Boring No. 5 Date 8/31/99

Project Location: NAS Jax / Gas Hill

Prepared by: E. Parker Sample Container Glass Jars

Soil Boring or Monitor Well ID No.	Sampling Depth (ft bls)	Brief Lithologic Description	Hydrocarbon Odor				OVA-FID Measurement		
			NONE	SLIGHT	MOD	STRONG	Unfiltered	Filtered	Net
see above	0-2	See Fieldbook	✓				0		0
	2-4		✓				0		0
	4-6		✓				0		0
	6-8		✓				0		0
	8-10		✓				0		0
	10-12		✓				0		0
	12-14		✓				0		0
	14-16		✓				0		0
	16-18	water Table WET @ 17.5 FT.	✓				0		0
		Note; OVA samples taken at bottom of interval indicated.							
							Drilling Area Background = 0 ppm		
		Note, for lithologic description, see field book.							

TETRA TECH NUS, INC.

N0255.FB0.050.225

OVA-FID LOG

Project Number: Well ID NASJ-159-BH-37 Boring No. 6 Date 8/31/99

Project Location: NAS JAX/GAS Hill

Prepared by: E. Parker Sample Container Glass Jar

Soil Boring or Monitor Well ID No.	Sampling Depth (ft bls)	Brief Lithologic Description	Hydrocarbon Odor: NONE	Hydrocarbon Odor: SLIGHT	Hydrocarbon Odor: MOD	Hydrocarbon Odor: STRONG	OVA-FID Measurement: Unfiltered	OVA-FID Measurement: Filtered	OVA-FID Measurement: Net
see above	0-2	See Fieldbook	✓				0		0
	2-4		✓				0		0
	4-6		✓				0		0
	6-8		✓				0		0
	8-10		✓				0		0
	10-12		✓				0		0
	12-13		✓				0		0
	13-14		✓				10	9	1
	Note: OVA Samples taken at bottom of interval indicated.								
							Drilling Area Background = 0ppm		
		Note: For lithologic description, see field book.							

OVA-FID LOG

NO 255. FB0. 050. 225

Project Number: Well I.D. = NASJ-159-GH-38 Boring No. ~~8~~ 7 Date 9/~~8~~/99

Project Location: NAS Jax / Gas Hill

Prepared by: E. Parker Sample Container Glass Mason Jars

Soil Boring or Monitor Well ID No.	Sampling Depth (ft bls)	Brief Lithologic Description	Hydrocarbon Odor				OVA-FID Measurement		
			NONE	SLIGHT	MOD	STRONG	Unfiltered	Filtered	Net
see Above	0-2	See Fieldbook	✓				0	–	0
	2-4		✓				0	–	0
	4-6		✓				0	–	0
	6-8		✓				20	19	1
	8-10		✓				88	25	63
	10-12		✓				300	251	49
	12-14	water table wet	✓				995	600	395
		Note: OVA samples taken at bottom of interval indicated.							
							Drilling Area Background = 0ppm		

TETRA TECH NUS, INC.

BORING LOG

PROJECT NAME:	GAS HILL, NAS JACKSONVILLE	BORING NUMBER:	8
PROJECT NUMBER:	N0255. FBO. 050-225	DATE:	09/01/99
DRILLING COMPANY:	GROUNDWATER PROTECTION	GEOLOGIST:	MERVIN DALE
DRILLING RIG:	Geoprobe DT-66	DRILLER:	Charles Bucher

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%) N/A	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	~~MATERIAL DESCRIPTION~~ Soil Density/ Consistency or Rock Hardness	Color	FID reading unFiltered ~~Material Classification~~	USCS *	filtered Remarks	PID/FID Reading (ppm) Sample Net	Sampler BZ	Borehole**	Driller BZ**
	0-2						0		—	0			0
	2-4			For litho Descrip see log book for CTO 101			0		—	0			
	4-6						0		—	0			
	6-8						50		0	50			
	8-10						500		100	400			
	—						~~50~~		~~0~~	~~50~~			
	10-12						500		0	500			
	12-14						1000		200	800			
	15						Water Table						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes X No

Well I.D. #: NASJ-159-GH-39

APPENDIX B

IDW ANALYTICAL DATA

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Tetra Tech NUS, Inc.
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REPORT # : JR7909
DATE SUBMITTED: July 31, 1999
DATE REPORTED : August 19, 1999

ATTENTION: Ms. Lee Leck

SAMPLE IDENTIFICATION

Samples submitted and identified by client as:

PROJECT #: NO255/CTO101

NAS JAX Gas Hill

07/30/99

#1 - NASJ-159-GH-IDW-01 @ 12:19

PROJECT MANAGER ____________________
Scott D. Martin

RESULTS OF ANALYSIS

EPA METHOD 5035/8021 - VOLATILE ORGANICS	**NASJ-159-GH-IDW-01**	**Units**
Methyl tert-butyl ether	2.0 U D1	µg/Kg
Benzene	1.0 U D1	µg/Kg
Toluene	1.0 U D1	µg/Kg
Chlorobenzene	1.0 U D1	µg/Kg
Ethylbenzene	1.0 U D1	µg/Kg
m-Xylene & p-Xylene	2.0 U D1	µg/Kg
o-Xylene	1.0 U D1	µg/Kg
1,3-Dichlorobenzene	1.0 U D1	µg/Kg
1,4-Dichlorobenzene	1.0 U D1	µg/Kg
1,2-Dichlorobenzene	1.0 U D1	µg/Kg
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/Kg
Surrogate Reported Value	45	µg/Kg
Surrogate Percent Recovery	90	%
Surrogate Control Limits	28-165	%
Date Analyzed	08/03/99	

MISCELLANEOUS	**METHOD**	**NASJ-159-GH-IDW-01**	**Units**
Percent Solids	SM2540G	**79**	%
Date Analyzed		08/01/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.
D1 = Analyte value determined from a 1:1.02 dilution.

RESULTS OF ANALYSIS

EPA METHOD 3550/8310 - PAH BY HPLC	NASJ-159-GH-IDW-01	Units
Naphthalene	21 U	µg/Kg
Acenaphthylene	42 U	µg/Kg
1-Methylnaphthalene	42 U	µg/Kg
2-Methylnaphthalene	42 U	µg/Kg
Acenaphthene	21 U	µg/Kg
Fluorene	**6.7**	µg/Kg
Phenanthrene	42 U	µg/Kg
Anthracene	2.0 U	µg/Kg
Fluoranthene	4.2 U	µg/Kg
Pyrene	2.1 U	µg/Kg
Benzo(a)anthracene	2.1 U	µg/Kg
Chrysene	2.1 U	µg/Kg
Benzo(b)fluoranthene	4.0 U	µg/Kg
Benzo(k)fluoranthene	2.0 U	µg/Kg
Benzo(a)pyrene	2.0 U	µg/Kg
Dibenzo(a,h)anthracene	4.2 U	µg/Kg
Benzo(g,h,i)perylene	4.2 U	µg/Kg
Indeno(1,2,3-cd)pyrene	2.1 U	µg/Kg
Surrogate (p-terphenyl)		
Surrogate Expected Value	330	µg/Kg
Surrogate Reported Value	333	µg/Kg
Surrogate Percent Recovery	101	%
Surrogate Control Limit	50-146	%
Date Extracted	08/04/99	
Date Analyzed	08/09/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	NASJ-159-GH-IDW-01	Units
Arsenic	3050/6010	**0.60** I	mg/Kg
Date Analyzed		08/03/99	
Barium	3050/6010	25 U	mg/Kg
Date Analyzed		08/03/99	
Cadmium	3050/6010	1.0 U	mg/Kg
Date Analyzed		08/03/99	
Chromium	3050/6010	**6.7**	mg/Kg
Date Analyzed		08/03/99	
Lead	3050/6010	**4.3**	mg/Kg
Date Analyzed		08/03/99	
Mercury	7471	**0.023** V	mg/Kg
Date Analyzed		08/06/99	
Selenium	3050/6010	2.0 U	mg/Kg
Date Analyzed		08/03/99	
Silver	3050/6010	2.0 U	mg/Kg
Date Analyzed		08/03/99	

V = Analyte detected in associated preparatory blank.
U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3550/FLPRO - PETROL. RESIDUAL ORG.	NASJ-159-GH-IDW-01	Units
Hydrocarbons (C8-C40)	8.4 U	mg/Kg
Surrogate (-Terphenyl)		
Surrogate Expected Value	1.65	µg/Kg
Surrogate Reported Value	1.44	µg/Kg
Surrogate Percent Recovery	87	%
Surrogate Control Limit	51-148	%
Date Extracted	08/02/99	
Date Analyzed	08/03/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

RESULTS OF ANALYSIS

EPA METHOD 5035/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/Kg
Benzene	1.0 U	µg/Kg
Toluene	1.0 U	µg/Kg
Chlorobenzene	1.0 U	µg/Kg
Ethylbenzene	1.0 U	µg/Kg
m-Xylene & p-Xylene	2.0 U	µg/Kg
o-Xylene	1.0 U	µg/Kg
1,3-Dichlorobenzene	1.0 U	µg/Kg
1,4-Dichlorobenzene	1.0 U	µg/Kg
1,2-Dichlorobenzene	1.0 U	µg/Kg
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	mg/Kg
Surrogate Reported Value	47	mg/Kg
Surrogate Percent Recovery	94	%
Surrogate Control Limits	28-165	%
Date Analyzed	08/03/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3550/8310 - PAH BY HPLC	LAB BLANK	Units
Naphthalene	17 U	μg/Kg
Acenaphthylene	33 U	μg/Kg
1-Methylnaphthalene	33 U	μg/Kg
2-Methylnaphthalene	33 U	μg/Kg
Acenaphthene	17 U	μg/Kg
Fluorene	3.3 U	μg/Kg
Phenanthrene	33 U	μg/Kg
Anthracene	2.0 U	μg/Kg
Fluoranthene	3.3 U	μg/Kg
Pyrene	1.7 U	μg/Kg
Benzo(a)anthracene	1.7 U	μg/Kg
Chrysene	1.7 U	μg/Kg
Benzo(b)fluoranthene	3.0 U	μg/Kg
Benzo(k)fluoranthene	2.0 U	μg/Kg
Benzo(a)pyrene	2.0 U	μg/Kg
Dibenzo(a,h)anthracene	3.3 U	μg/Kg
Benzo(g,h,i)perylene	3.3 U	μg/Kg
Indeno(1,2,3-cd)pyrene	1.7 U	μg/Kg
Surrogate (p-terphenyl)		
Surrogate Expected Value	330	μg/Kg
Surrogate Reported Value	300	μg/Kg
Surrogate Percent Recovery	91	%
Surrogate Control Limit	50-146	%
Date Extracted	08/04/99	
Date Analyzed	08/09/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	Units
Arsenic	3050/6010	0.50 U	mg/Kg
Date Analyzed		08/03/99	
Barium	3050/6010	20 U	mg/Kg
Date Analyzed		08/03/99	
Cadmium	3050/6010	1.0 U	mg/Kg
Date Analyzed		08/03/99	
Chromium	3050/6010	1.0 U	mg/Kg
Date Analyzed		08/03/99	
Lead	3050/6010	1.0 U	mg/Kg
Date Analyzed		08/03/99	
Mercury	7471	**0.012** I	mg/Kg
Date Analyzed		08/06/99	
Selenium	3050/6010	2.0 U	mg/Kg
Date Analyzed		08/03/99	
Silver	3050/6010	2.0 U	mg/Kg
Date Analyzed		08/03/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3550/FLPRO - PETROL. RESIDUAL ORG.	**LAB BLANK**	**Units**
Hydrocarbons (C8-C40)	6.6 U	mg/Kg
Surrogate (o-Terphenyl)		
Surrogate Expected Value	1.65	mg/Kg
Surrogate Reported Value	1.02	mg/Kg
Surrogate Percent Recovery	62	%
Surrogate Control Limit	51-148	%
Date Extracted	08/02/99	
Date Analyzed	08/02/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	LCS TARGET µg/kg	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 5035/8021					
Benzene	79/ 81/ 74	20	59-144	2	25
Toluene	#62/ 61/ 68	20	67-132	2	58
Ethylbenzene	69/ 72/ 79	20	60-169	4	28
o-Xylene	76/ 79/ 90	20	62-183	4	24
EPA Method 3550/8310					
Naphthalene	95/ 85/ 65	330	26-125	11	45
Acenaphthene	96/ 89/ 77	330	20-143	8	35
Benzo(a)pyrene	95/ 97/ 95	33	42-138	2	38
Benzo(g,h,i)perylene	94/ 95/ 95	66	51-142	1	26
Total Metals					
Arsenic, 3050/6010	88/ 87/100	50	53-153	1	22
Barium, 3050/6010	90/ 91/ 99	50	70-120	1	16
Cadmium, 3050/6010	90/ 90/ 99	25	59-130	<1	24
Chromium, 3050/6010	90/ 91/ 98	50	57-135	1	24
Lead, 3050/6010	91/ 91/100	50	63-128	<1	26
Mercury, 7471	74/ 77/ 89	0.25	71-138	4	13
Selenium, 3050/6010	87/ 86/ 96	50	60-121	1	14
Silver, 3050/6010	70/ 70/ 76	5	69-118	<1	10
PETROL. RESIDUAL ORG. (3550/FLPRO)					
Hydrocarbons (C8-C40)	85/ 80/110	56.1	62-204	6	25

NOTE: RCRA8 Metals and LCS FLPRO target units are mg/kg
Environmental Conservation Laboratories Comprehensive QA Plan #960038

= The associated value failed to meet laboratory established criteria for precision.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

sample_no	run_number	parameter	method	units	idl	mdl	crdl_crql	dil_factor	pct_moist
NASJ-159-GH-IDW-01	1	Silver	3050/6010	mg/Kg	0.05		2	1	21
NASJ-159-GH-IDW-01	1	Arsenic	3050/6010	mg/Kg	0.4		0.6	1	21
NASJ-159-GH-IDW-01	1	Barium	3050/6010	mg/Kg	0.1		25	1	21
NASJ-159-GH-IDW-01	1	Cadmium	3050/6010	mg/Kg	0.05		1	1	21
NASJ-159-GH-IDW-01	1	Chromium	3050/6010	mg/Kg	0.15		1	1	21
NASJ-159-GH-IDW-01	1	Lead	3050/6010	mg/Kg	0.15		1	1	21
NASJ-159-GH-IDW-01	1	Selenium	3050/6010	mg/Kg	0.2		2	1	21
NASJ-159-GH-IDW-01	1	Mercury	7471	mg/Kg	0.004		0.01	1	21
NASJ-159-GH-IDW-01	1	Naphthalene	3550/8310	ug/Kg		8.5	21	1	21
NASJ-159-GH-IDW-01	1	Acenaphthylene	3550/8310	ug/Kg		4.2	42	1	21
NASJ-159-GH-IDW-01	1	1-Methylnaphthalene	3550/8310	ug/Kg		4.2	42	1	21
NASJ-159-GH-IDW-01	1	2-Methylnaphthalene	3550/8310	ug/Kg		8.5	42	1	21
NASJ-159-GH-IDW-01	1	Acenaphthene	3550/8310	ug/Kg		8.5	21	1	21
NASJ-159-GH-IDW-01	1	Fluorene	3550/8310	ug/Kg		1.7	4.2	1	21
NASJ-159-GH-IDW-01	1	Phenanthrene	3550/8310	ug/Kg		1.7	42	1	21
NASJ-159-GH-IDW-01	1	Anthracene	3550/8310	ug/Kg		1	2	1	21
NASJ-159-GH-IDW-01	1	Fluoranthene	3550/8310	ug/Kg		1.7	4.2	1	21
NASJ-159-GH-IDW-01	1	Pyrene	3550/8310	ug/Kg		1.7	2.1	1	21
NASJ-159-GH-IDW-01	1	Benzo(a)anthracene	3550/8310	ug/Kg		0.85	2.1	1	21
NASJ-159-GH-IDW-01	1	Chrysene	3550/8310	ug/Kg		0.85	2.1	1	21
NASJ-159-GH-IDW-01	1	Benzo(b)fluoranthene	3550/8310	ug/Kg		2	4	1	21
NASJ-159-GH-IDW-01	1	Benzo(k)fluoranthene	3550/8310	ug/Kg		1	2	1	21
NASJ-159-GH-IDW-01	1	Benzo(a)pyrene	3550/8310	ug/Kg		1	2	1	21
NASJ-159-GH-IDW-01	1	Dibenzo(a,h)anthracene	3550/8310	ug/Kg		3	4.2	1	21
NASJ-159-GH-IDW-01	1	Benzo(g,h,i)perylene	3550/8310	ug/Kg		3	4.2	1	21
NASJ-159-GH-IDW-01	1	Indeno(1,2,3-cd)pyrene	3550/8310	ug/Kg		0.85	2.1	1	21
NASJ-159-GH-IDW-01	1	P-Terphenyl	3550/8310	%				1	
NASJ-159-GH-IDW-01	1	Hydrocarbons (C8-C40)	3550/FLPRO	mg/Kg		8.4	8.4	1	21
NASJ-159-GH-IDW-01	1	o-Terphenyl	3550/FLPRO	%				1	
NASJ-159-GH-IDW-01	1	Methyl tert-butyl ether	5035/8021	ug/Kg		2	2	1.02	21
NASJ-159-GH-IDW-01	1	Benzene	5035/8021	ug/Kg		1	1	1.02	21
NASJ-159-GH-IDW-01	1	Toluene	5035/8021	ug/Kg		1.1	1	1.02	21
NASJ-159-GH-IDW-01	1	Chlorobenzene	5035/8021	ug/Kg		1.1	1	1.02	21
NASJ-159-GH-IDW-01	1	Ethylbenzene	5035/8021	ug/Kg		1.1	1	1.02	21
NASJ-159-GH-IDW-01	1	m-Xylene & p-Xylene	5035/8021	ug/Kg		2	2	1.02	21
NASJ-159-GH-IDW-01	1	o-Xylene	5035/8021	ug/Kg		1	1	1.02	21
NASJ-159-GH-IDW-01	1	1,3-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.02	21
NASJ-159-GH-IDW-01	1	1,4-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.02	21
NASJ-159-GH-IDW-01	1	1,2-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.02	21
NASJ-159-GH-IDW-01	1	Bromofluorobenzene	5035/8021	%				1.02	

QSARF #

ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

10207 General Drive
Orlando, Florida 32824
Ph. (407) 826-5314 • Fax (407) 850-6945

ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: NASJAX, GAS HILL CTO 101
PROJECT NO.: N0255
P.O. NUMBER:
PAGE 1 OF 1

PROJECT LOC. (State): FL
SAMPLER(s) NAME: M. DALE
PHONE: 904 281-0400
FAX: 904-281-0070

CLIENT NAME: Tetra Tech NUS, Inc.
CLIENT PROJECT MANAGER: MERVIN DALE
CLIENT ADDRESS (CITY, STATE, ZIP): JACKSONVILLE, FL 32256

MATRIX TYPE: SURFACE WATER, GROUND WATER, WASTEWATER, DRINKING WATER, SOIL/SOLID/SEDIMENT, NONAQUEOUS LIQUID (oil, solvent, etc.), AIR, SLUDGE, OTHER

REQUIRED ANALYSIS: 8021B; 8 RCRA metals 6010B; FL-PRO; 8310

PRESERVATIVE: NO; NO; NO; NO

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)

Date Due:

STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER	8021B	8 RCRA metals 6010B	FL-PRO	8310	REMARKS
1	073099	1219		X	NASJ-159-GH-IDW-01					✓					3	1		1	COC # 03945
2																			8021B = VOA's, BTEX
3																			PLUS MTBE.
4																			6010B (trace)
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			

NUMBER OF CONTAINERS SUBMITTED

SAMPLE KIT PREPARED BY: ☒ JACKSONVILLE ☐ ORLANDO	DATE 7/29/99	TIME 1:30	RELINQUISHED BY: (SIGNATURE) [signature]	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE) Mervin H. Dale	DATE 7/30/99	TIME 1811	RECEIVED BY: (SIGNATURE) [signature]	DATE 7/30/99	TIME 1811	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
[signature] ☒ Jacksonville ☐ Orlando	7/31/99	930	☒ YES ☐ NO	JR7909	

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CASE NARRATIVE

Date: August 19, 1999

Client: Tetra Tech NUS, Inc.

Project #: N0255 / CTO101

Lab ID: JR7909

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

One solid sample was received on July 31, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

Quality Control Remarks

In the 8021 analyses, the MS and MSD recoveries for toluene were low, outside of established limits. Per the analytical method, the data was validated as acceptable based on the LCS recoveries. Additionally, the RPD between the MS and MSD was within acceptance limits.

In the mercury analysis, a positive result was obtained in the preparatory blank. All associated samples were far below Florida regulatory levels. As such, the data was "V" flagged per the Florida Department of Environmental Protection requirements and released without further qualification.

Other Comments

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

APPENDIX C

DISPOSAL MANIFEST

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. FL6170024412	Manifest Document No. 49102	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address
U.S. Navy
6500 Roosevelt Blvd., NAS Jacksonville
Jacksonville, FL 32212-5000

4. Generator's Phone (904) 542-2717 (Attn; Mr Frank Sigona)

5. Transporter 1 Company Name	6. US EPA ID Number	
Freehold Cartage	NJD054126164	800-458-5229
7. Transporter 2 Company Name	8. US EPA ID Number	

9. Designated Facility Name and Site Address	10. US EPA ID Number	
Solid Waste Technologies, Inc. 300 Swett Avenue Americas, GA 31709	GAD000104012O	A. Transporter's Phone B. Transporter's Phone C. Facility's Phone 912-928-5148

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Regulated Material (Soil, Drill Cuttings, Plastic) RCRA & D.O.T. Non-Hazardous Profile No. 910026	009	DM	00495	G
b. Non-Regulated Material (Water/Drilling Mud) RCRA & D.O.T. Non-Hazardous Profile No. 910025	004	DM	00220	G
c.				
d.				

D. Additional Descriptions for Materials Listed Above
a) Drum # 1-6 + 11-13
b) Drum # 7-10

E. Handling Codes for Wastes Listed Above
S01/M141

15. Special Handling Instructions and Additional Information
Site: NAS JAX Fuel Farm/Gas Hill, NAS Jacksonville, Florida
TECHNICAL CONTACT: Florida Environmental Compliance Corp./800-771-1050
2418 Silver Star Road, Orlando, Florida 32804-3312
Project No. 991006
Site Contact: Frank Sigona

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Timothy Curtin	Timothy Curtin	10	22	99

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Scott Terry	Scott Terry	10	22	99

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

12-BLS-C6 Rev. 4/94

GENERATOR'S COPY

APPENDIX D

SOIL ANALYTICAL DATA

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Tetra Tech NUS, Inc.
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REPORT # : JR8358
DATE SUBMITTED: September 1, 1999
DATE REPORTED : September 28, 1999

ATTENTION: Ms. Lee Leck

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: NO255.F30.050.225

Gas Hill

#1	- NASJ-159-GH-35-16	@	12:15	(08/31/99)
#2	- NASJ-159-GH-36-4	@	14:20	(08/31/99)
#3	- NASJ-159-GH-37-4	@	15:10	(08/31/99)
#4	- NASJ-159-GH-38-14	@	08:10	(09/01/99)
#5	- NASJ-159-GH-39-14	@	09:20	(09/01/99)

PROJECT MANAGER ____________________
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5035/8021 - VOLATILE ORGANICS	NASJ-159-GH-35-16	Units
Methyl tert-butyl ether	2.0 U	µg/Kg
Benzene	1.1 U	µg/Kg
Toluene	1.1 U	µg/Kg
Chlorobenzene	1.1 U	µg/Kg
Ethylbenzene	1.1 U	µg/Kg
m-Xylene & p-Xylene	2.0 U	µg/Kg
o-Xylene	1.1 U	µg/Kg
1,3-Dichlorobenzene	1.1 U	µg/Kg
1,4-Dichlorobenzene	1.1 U	µg/Kg
1,2-Dichlorobenzene	1.1 U	µg/Kg
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/Kg
Surrogate Reported Value	57	µg/Kg
Surrogate Percent Recovery	114	%
Surrogate Control Limits	28-165	%
Date Analyzed	09/06/99	

MISCELLANEOUS	METHOD	NASJ-159-GH-35-16	Units
Percent Solids	SM2540G	83	%
Date Analyzed		09/07/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3550/8310 - PAH BY HPLC	NASJ-159-GH-35-16	Units
Naphthalene	20 U	µg/Kg
Acenaphthylene	40 U	µg/Kg
1-Methylnaphthalene	**41**	µg/Kg
2-Methylnaphthalene	**44**	µg/Kg
Acenaphthene	20 U	µg/Kg
Fluorene	4.0 U	µg/Kg
Phenanthrene	40 U	µg/Kg
Anthracene	2.0 U	µg/Kg
Fluoranthene	4.0 U	µg/Kg
Pyrene	2.0 U	µg/Kg
Benzo(a)anthracene	2.0 U	µg/Kg
Chrysene	2.0 U	µg/Kg
Benzo(b)fluoranthene	4.0 U	µg/Kg
Benzo(k)fluoranthene	2.0 U	µg/Kg
Benzo(a)pyrene	2.0 U	µg/Kg
Dibenzo(a,h)anthracene	4.0 U	µg/Kg
Benzo(g,h,i)perylene	4.0 U	µg/Kg
Indeno(1,2,3-cd)pyrene	2.0 U	µg/Kg
Surrogate (p-terphenyl)		
Surrogate Expected Value	330	µg/Kg
Surrogate Reported Value	337	µg/Kg
Surrogate Percent Recovery	102	%
Surrogate Control Limit	50-146	%
Date Extracted	09/04/99	
Date Analyzed	09/08/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	NASJ-159-GH-35-16	Units
Arsenic	3050/6010	0.60 U	mg/Kg
Date Analyzed		09/03/99	
Barium	3050/6010	24 U	mg/Kg
Date Analyzed		09/03/99	
Cadmium	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Chromium	3050/6010	**2.0**	mg/Kg
Date Analyzed		09/03/99	
Lead	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Mercury	7471	0.010 U	mg/Kg
Date Analyzed		09/04/99	
Selenium	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	
Silver	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD FLPRO - PETROL. RESIDUAL ORG.	NASJ-159-GH-35-16	Units
Hydrocarbons (C8-C40)	8.0 U	mg/Kg
Surrogate (o-Terphenyl)		
Surrogate Expected Value	1.65	mg/Kg
Surrogate Reported Value	1.25	mg/Kg
Surrogate Percent Recovery	76	%
Surrogate Control Limit	51-145	%
Date Extracted	09/02/99	
Date Analyzed	09/07/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

RESULTS OF ANALYSIS

EPA METHOD 5035/8021 - VOLATILE ORGANICS	NASJ-159-GH-36-4	Units
Methyl tert-butyl ether	2.0 U D1	µg/Kg
Benzene	1.2 U D1	µg/Kg
Toluene	1.2 U D1	µg/Kg
Chlorobenzene	1.2 U D1	µg/Kg
Ethylbenzene	1.2 U D1	µg/Kg
m-Xylene & p-Xylene	2.0 U D1	µg/Kg
o-Xylene	1.0 U D1	µg/Kg
1,3-Dichlorobenzene	1.0 U D1	µg/Kg
1,4-Dichlorobenzene	1.0 U D1	µg/Kg
1,2-Dichlorobenzene	1.0 U D1	µg/Kg
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/Kg
Surrogate Reported Value	45	µg/Kg
Surrogate Percent Recovery	90	%
Surrogate Control Limits	28-165	%
Date Analyzed	09/06/99	

MISCELLANEOUS	METHOD	NASJ-159-GH-36-4	Units
Percent Solids	SM2540G	**90**	%
Date Analyzed		09/07/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.
D1 = Analyte value determined from a 1:1.14 dilution.

RESULTS OF ANALYSIS

EPA METHOD 3550/8310 - PAH BY HPLC	NASJ-159-GH-36-4	Units
Naphthalene	19 U	µg/Kg
Acenaphthylene	37 U	µg/Kg
1-Methylnaphthalene	37 U	µg/Kg
2-Methylnaphthalene	37 U	µg/Kg
Acenaphthene	19 U	µg/Kg
Fluorene	3.7 U	µg/Kg
Phenanthrene	37 U	µg/Kg
Anthracene	2.0 U	µg/Kg
Fluoranthene	3.7 U	µg/Kg
Pyrene	1.9 U	µg/Kg
Benzo(a)anthracene	1.9 U	µg/Kg
Chrysene	1.9 U	µg/Kg
Benzo(b)fluoranthene	3.0 U	µg/Kg
Benzo(k)fluoranthene	2.0 U	µg/Kg
Benzo(a)pyrene	2.0 U	µg/Kg
Dibenzo(a,h)anthracene	3.7 U	µg/Kg
Benzo(g,h,i)perylene	3.7 U	µg/Kg
Indeno(1,2,3-cd)pyrene	1.9 U	µg/Kg
Surrogate (p-terphenyl)		
Surrogate Expected Value	330	µg/Kg
Surrogate Reported Value	323	µg/Kg
Surrogate Percent Recovery	98	%
Surrogate Control Limit	50-146	%
Date Extracted	09/04/99	
Date Analyzed	09/08/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	NASJ-159-GH-36-4	Units
Arsenic	3050/6010	0.60 U	mg/Kg
Date Analyzed		09/03/99	
Barium	3050/6010	22 U	mg/Kg
Date Analyzed		09/03/99	
Cadmium	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Chromium	3050/6010	**1.6**	mg/Kg
Date Analyzed		09/03/99	
Lead	3050/6010	**2.9**	mg/Kg
Date Analyzed		09/03/99	
Mercury	7471	0.010 U	mg/Kg
Date Analyzed		09/04/99	
Selenium	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	
Silver	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD FLPRO - PETROL. RESIDUAL ORG.	NASJ-159-GH-36-4	Units
Hydrocarbons (C8-C40)	7.3 U	mg/Kg
Surrogate (o-Terphenyl)		
Surrogate Expected Value	1.65	mg/Kg
Surrogate Reported Value	1.04	mg/Kg
Surrogate Percent Recovery	63	%
Surrogate Control Limit	51-145	%
Date Extracted	09/02/99	
Date Analyzed	09/07/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

RESULTS OF ANALYSIS

EPA METHOD 5035/8021 - VOLATILE ORGANICS	NASJ-159-GH-37-4	Units
Methyl tert-butyl ether	2.0 U D2	µg/Kg
Benzene	1.0 U D2	µg/Kg
Toluene	1.0 U D2	µg/Kg
Chlorobenzene	1.0 U D2	µg/Kg
Ethylbenzene	1.0 U D2	µg/Kg
m-Xylene & p-Xylene	2.0 U D2	µg/Kg
o-Xylene	1.0 U D2	µg/Kg
1,3-Dichlorobenzene	1.0 U D2	µg/Kg
1,4-Dichlorobenzene	1.0 U D2	µg/Kg
1,2-Dichlorobenzene	1.0 U D2	µg/Kg
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/Kg
Surrogate Reported Value	46	µg/Kg
Surrogate Percent Recovery	92	%
Surrogate Control Limits	28-165	%
Date Analyzed	09/06/99	

MISCELLANEOUS	METHOD	NASJ-159-GH-37-4	Units
Percent Solids	SM2540G	**79**	%
Date Analyzed		09/07/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.
D2 = Analyte value determined from a 1:1.05 dilution.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3550/8310 - PAH BY HPLC	NASJ-159-GH-37-4		Units
Naphthalene	21	U	µg/Kg
Acenaphthylene	42	U	µg/Kg
1-Methylnaphthalene	42	U	µg/Kg
2-Methylnaphthalene	42	U	µg/Kg
Acenaphthene	21	U	µg/Kg
Fluorene	4.2	U	µg/Kg
Phenanthrene	42	U	µg/Kg
Anthracene	2.0	U	µg/Kg
Fluoranthene	**5.0**	I	µg/Kg
Pyrene	**5.4**	I	µg/Kg
Benzo(a)anthracene	2.1	U	µg/Kg
Chrysene	**4.2**		µg/Kg
Benzo(b)fluoranthene	**6.0**	I	µg/Kg
Benzo(k)fluoranthene	**2.0**	I	µg/Kg
Benzo(a)pyrene	**8.0**		µg/Kg
Dibenzo(a,h)anthracene	**12**		µg/Kg
Benzo(g,h,i)perylene	**12**		µg/Kg
Indeno(1,2,3-cd)pyrene	**5.4**		µg/Kg
Surrogate (p-terphenyl)			
Surrogate Expected Value	330		µg/Kg
Surrogate Reported Value	307		µg/Kg
Surrogate Percent Recovery	93		%
Surrogate Control Limit	50-146		%
Date Extracted	09/04/99		
Date Analyzed	09/08/99		

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	NASJ-159-GH-37-4	Units
Arsenic	3050/6010	0.60 U	mg/Kg
Date Analyzed		09/03/99	
Barium	3050/6010	25 U	mg/Kg
Date Analyzed		09/03/99	
Cadmium	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Chromium	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Lead	3050/6010	**1.5**	mg/Kg
Date Analyzed		09/03/99	
Mercury	7471	0.010 U	mg/Kg
Date Analyzed		09/04/99	
Selenium	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	
Silver	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

RESULTS OF ANALYSIS

EPA METHOD FLPRO - PETROL. RESIDUAL ORG.	NASJ-159-GH-37-4	Units
Hydrocarbons (C8-C40)	8.4 U	mg/Kg
Surrogate (o-Terphenyl)		
Surrogate Expected Value	1.65	mg/Kg
Surrogate Reported Value	1.14	mg/Kg
Surrogate Percent Recovery	69	%
Surrogate Control Limit	51-145	%
Date Extracted	09/02/99	
Date Analyzed	09/07/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5035/8021 - VOLATILE ORGANICS	NASJ-159-GH-38-14	Units
Methyl tert-butyl ether	2.0 U D3	µg/Kg
Benzene	1.5 U D3	µg/Kg
Toluene	1.5 U D3	µg/Kg
Chlorobenzene	1.5 U D3	µg/Kg
Ethylbenzene	1.5 U D3	µg/Kg
m-Xylene & p-Xylene	2.0 U D3	µg/Kg
o-Xylene	1.0 U D3	µg/Kg
1,3-Dichlorobenzene	1.0 U D3	µg/Kg
1,4-Dichlorobenzene	1.0 U D3	µg/Kg
1,2-Dichlorobenzene	1.0 U D3	µg/Kg
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/Kg
Surrogate Reported Value	46.5	µg/Kg
Surrogate Percent Recovery	93	%
Surrogate Control Limits	28-165	%
Date Analyzed	09/06/99	

MISCELLANEOUS	METHOD	NASJ-159-GH-38-14	Units
Percent Solids	SM2540G	80	%
Date Analyzed		09/07/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.
D3 = Analyte value determined from a 1:1.16 dilution.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3550/8310 - PAH BY HPLC	NASJ-159-GH-38-14	Units
Naphthalene	21 U	µg/Kg
Acenaphthylene	42 U	µg/Kg
1-Methylnaphthalene	42 U	µg/Kg
2-Methylnaphthalene	42 U	µg/Kg
Acenaphthene	21 U	µg/Kg
Fluorene	4.2 U	µg/Kg
Phenanthrene	42 U	µg/Kg
Anthracene	2.0 U	µg/Kg
Fluoranthene	4.2 U	µg/Kg
Pyrene	2.1 U	µg/Kg
Benzo(a)anthracene	2.1 U	µg/Kg
Chrysene	2.1 U	µg/Kg
Benzo(b)fluoranthene	4.0 U	µg/Kg
Benzo(k)fluoranthene	2.0 U	µg/Kg
Benzo(a)pyrene	2.0 U	µg/Kg
Dibenzo(a,h)anthracene	4.2 U	µg/Kg
Benzo(g,h,i)perylene	4.2 U	µg/Kg
Indeno(1,2,3-cd)pyrene	2.1 U	µg/Kg
Surrogate (p-terphenyl)		
Surrogate Expected Value	330	µg/Kg
Surrogate Reported Value	363	µg/Kg
Surrogate Percent Recovery	110	%
Surrogate Control Limit	50-146	%
Date Extracted	09/04/99	
Date Analyzed	09/08/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	NASJ-159-GH-38-14	Units
Arsenic	3050/6010	0.60 U	mg/Kg
Date Analyzed		09/03/99	
Barium	3050/6010	25 U	mg/Kg
Date Analyzed		09/03/99	
Cadmium	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Chromium	3050/6010	**1.4**	mg/Kg
Date Analyzed		09/03/99	
Lead	3050/6010	**1.9**	mg/Kg
Date Analyzed		09/03/99	
Mercury	7471	0.010 U	mg/Kg
Date Analyzed		09/04/99	
Selenium	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	
Silver	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD FLPRO - PETROL. RESIDUAL ORG.	NASJ-159-GH-38-14	Units
Hydrocarbons (C8-C40)	8.2 U	mg/Kg
Surrogate (o-Terphenyl)		
Surrogate Expected Value	1.65	mg/Kg
Surrogate Reported Value	1.12	mg/Kg
Surrogate Percent Recovery	68	%
Surrogate Control Limit	51-145	%
Date Extracted	09/02/99	
Date Analyzed	09/07/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5035/8021 - VOLATILE ORGANICS	NASJ-159-GH-39-14	Units
Methyl tert-butyl ether	2.0 U D4	µg/Kg
Benzene	1.6 U D4	µg/Kg
Toluene	1.6 U D4	µg/Kg
Chlorobenzene	1.6 U D4	µg/Kg
Ethylbenzene	**4.2** I D4	µg/Kg
m-Xylene & p-Xylene	**10** I D4	µg/Kg
o-Xylene	1.0 U D4	µg/Kg
1,3-Dichlorobenzene	1.0 U D4	µg/Kg
1,4-Dichlorobenzene	1.0 U D4	µg/Kg
1,2-Dichlorobenzene	1.0 U D4	µg/Kg
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/Kg
Surrogate Reported Value	45	µg/Kg
Surrogate Percent Recovery	90	%
Surrogate Control Limits	28-165	%
Date Analyzed	09/06/99	

MISCELLANEOUS	METHOD	NASJ-159-GH-39-14	Units
Percent Solids	SM2540G	**77**	%
Date Analyzed		09/07/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.
D4 = Analyte value determined from a 1:1.19 dilution.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3550/8310 - PAH BY HPLC	NASJ-159-GH-39-14	Units
Naphthalene	22 U	µg/Kg
Acenaphthylene	43 U	µg/Kg
1-Methylnaphthalene	**210**	µg/Kg
2-Methylnaphthalene	**180**	µg/Kg
Acenaphthene	22 U	µg/Kg
Fluorene	**8.0**	µg/Kg
Phenanthrene	43 U	µg/Kg
Anthracene	2.0 U	µg/Kg
Fluoranthene	**8.0**	µg/Kg
Pyrene	2.2 U	µg/Kg
Benzo(a)anthracene	**2.0** I	µg/Kg
Chrysene	**18**	µg/Kg
Benzo(b)fluoranthene	4.0 U	µg/Kg
Benzo(k)fluoranthene	2.0 U	µg/Kg
Benzo(a)pyrene	2.0 U	µg/Kg
Dibenzo(a,h)anthracene	**22**	µg/Kg
Benzo(g,h,i)perylene	4.3 U	µg/Kg
Indeno(1,2,3-cd)pyrene	**2.0** I	µg/Kg
Surrogate (p-terphenyl)		
Surrogate Expected Value	330	µg/Kg
Surrogate Reported Value	363	µg/Kg
Surrogate Percent Recovery	110	%
Surrogate Control Limit	50-146	%
Date Extracted	09/04/99	
Date Analyzed	09/08/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	NASJ-159-GH-39-14	Units
Arsenic	3050/6010	**1.8** I	mg/Kg
Date Analyzed		09/03/99	
Barium	3050/6010	**32**	mg/Kg
Date Analyzed		09/03/99	
Cadmium	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Chromium	3050/6010	**7.0**	mg/Kg
Date Analyzed		09/03/99	
Lead	3050/6010	**28**	mg/Kg
Date Analyzed		09/03/99	
Mercury	7471	0.010 U	mg/Kg
Date Analyzed		09/04/99	
Selenium	3050/6010	**2.0**	mg/Kg
Date Analyzed		09/03/99	
Silver	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD FLPRO - PETROL. RESIDUAL ORG.	NASJ-159-GH-39-14	Units
Hydrocarbons (C8-C40)	8.6 U	mg/Kg
Surrogate (o-Terphenyl)		
Surrogate Expected Value	1.65	mg/Kg
Surrogate Reported Value	1.25	mg/Kg
Surrogate Percent Recovery	67	%
Surrogate Control Limit	51-145	%
Date Extracted	09/02/99	
Date Analyzed	09/08/99	

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

RESULTS OF ANALYSIS

EPA METHOD 5035/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/Kg
Benzene	1.0 U	µg/Kg
Toluene	1.0 U	µg/Kg
Chlorobenzene	1.0 U	µg/Kg
Ethylbenzene	1.0 U	µg/Kg
m-Xylene & p-Xylene	2.0 U	µg/Kg
o-Xylene	1.0 U	µg/Kg
1,3-Dichlorobenzene	1.0 U	µg/Kg
1,4-Dichlorobenzene	1.0 U	µg/Kg
1,2-Dichlorobenzene	1.0 U	µg/Kg
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/Kg
Surrogate Reported Value	44	µg/Kg
Surrogate Percent Recovery	88	%
Surrogate Control Limits	28-165	%
Date Analyzed	09/06/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3550/8310 - PAH BY HPLC	LAB BLANK	Units
Naphthalene	17 U	µg/Kg
Acenaphthylene	33 U	µg/Kg
1-Methylnaphthalene	33 U	µg/Kg
2-Methylnaphthalene	33 U	µg/Kg
Acenaphthene	17 U	µg/Kg
Fluorene	3.3 U	µg/Kg
Phenanthrene	33 U	µg/Kg
Anthracene	2.0 U	µg/Kg
Fluoranthene	3.3 U	µg/Kg
Pyrene	1.7 U	µg/Kg
Benzo(a)anthracene	1.7 U	µg/Kg
Chrysene	1.7 U	µg/Kg
Benzo(b)fluoranthene	3.0 U	µg/Kg
Benzo(k)fluoranthene	2.0 U	µg/Kg
Benzo(a)pyrene	2.0 U	µg/Kg
Dibenzo(a,h)anthracene	3.3 U	µg/Kg
Benzo(g,h,i)perylene	3.3 U	µg/Kg
Indeno(1,2,3-cd)pyrene	1.7 U	µg/Kg
Surrogate (p-terphenyl)		
Surrogate Expected Value	330	µg/Kg
Surrogate Reported Value	310	µg/Kg
Surrogate Percent Recovery	94	%
Surrogate Control Limit	50-146	%
Date Extracted	09/04/99	
Date Analyzed	09/07/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	LAB BLANK	Units
Arsenic	3050/6010	0.50 U	mg/Kg
Date Analyzed		09/03/99	
Barium	3050/6010	20 U	mg/Kg
Date Analyzed		09/03/99	
Cadmium	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Chromium	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Lead	3050/6010	1.0 U	mg/Kg
Date Analyzed		09/03/99	
Mercury	7471	0.010 U	mg/Kg
Date Analyzed		09/04/99	
Selenium	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	
Silver	3050/6010	2.0 U	mg/Kg
Date Analyzed		09/03/99	

U = Compound was analyzed for but not detected to the level shown.

QUALITY CONTROL DATA

EPA METHOD FLPRO - **PETROL. RESIDUAL ORG.**	**LAB BLANK**	**Units**
Hydrocarbons (C8-C40)	6.6 U	mg/Kg
Surrogate (o-Terphenyl)		
Surrogate Expected Value	1.65	mg/Kg
Surrogate Reported Value	1.11	mg/Kg
Surrogate Percent Recovery	67	%
Surrogate Control Limit	51-145	%
Date Extracted	09/02/99	
Date Analyzed	09/07/99	

U = Compound was analyzed for but not detected to the level shown.

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	LCS TARGET µg/Kg	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 8020/8021					
Benzene	#52/ 54/ 97	20	59-144	4	25
Toluene	#48/ 50/ 97	20	67-132	4	58
Ethylbenzene	#40/ 41/ 96	20	60-169	2	28
o-Xylene	#39/ 41/ 96	20	62-183	5	24
EPA Method 8310					
Naphthalene	108/110/112	330	26-125	2	45
Acenaphthene	111/ 91/126	330	20-143	20	35
Benzo(a)pyrene	87/ 85/ 85	33	42-138	2	38
Benzo(g,h,i)perylene	100/104/103	66	51-142	4	26
Total Metals					
Arsenic, 3050/6010	98/ 96/101	50	53-153	2	22
Barium, 3050/6010	97/ 95/101	50	70-120	2	16
Cadmium, 3050/6010	97/ 94/100	25	59-130	3	24
Chromium, 3050/6010	95/ 94/100	50	57-135	1	24
Lead, 3050/6010	98/ 96/102	50	63-128	2	26
Mercury, 7471	92/ 96/112	0.25	71-138	4	13
Selenium, 3050/6010	97/ 94/101	50	60-121	3	14
Silver, 3050/6010	99/ 96/103	5	69-118	3	10
PETROL. RESIDUAL ORG.					
Hydrocarbons (C8-C40)	73/ 77/ 66	56.1	62-204	5	25

NOTE: RCRA8 Metals and LCS FLPRO target units are mg/Kg
Environmental Conservation Laboratories Comprehensive QA Plan #960038

\# = One or more of the associated value failed to meet laboratory established criteria for accuracy.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 159-1 | PAGE 1 OF 1

PROJECT NO: N02SS.F80.050.225	SITE NAME: GAS HILL
PROJECT MANAGER AND PHONE NUMBER	Greg Root 904 281-0400
LABORATORY NAME AND CONTACT:	ENCO SCOTT MARTIN
SAMPLERS (SIGNATURE)	Mervin W. Dale
FIELD OPERATIONS LEADER AND PHONE NUMBER	MERVIN DALE 904 281-0400
ADDRESS	
CARRIER/WAYBILL NUMBER	N/A
CITY, STATE	JACKSONVILLE, FL

STANDARD TAT ☐ 21 DAY X
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G, G, G, P
PRESERVATIVE USED: None, none, none, None

TYPE OF ANALYSIS: FL-PRO; RCRA 8 metals (6010B); 8310 (PAHs); 8021B (~~BTEX~~ + MTBE)

DATE YEAR 1999	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	FL-PRO	RCRA 8 metals (6010B)	8310 (PAHs)	8021B (BTEX + MTBE)				COMMENTS
8/31	1215	NASJ-159-GH-35-16	SO	G	6	✓	✓	✓	✓				Cool to 4°C
8/31	1420	NASJ-159-GH-36-4	SO	G	6	✓	✓	✓	✓				
8/31	1510	NASJ-159-GH-37-4	SO	G	6	✓	✓	✓	✓				
9/1	0810	NASJ-159-GH-38-14	SO	G	6	✓	✓	✓	✓				
9/1	0920	NASJ-159-GH-39-14	SO	G	6	✓	✓	✓	✓				

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY Mervin W. Dale	09/01/99	1439	1. RECEIVED BY J [illegible]	09/01/99	14:39
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS JR 8358

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FORM NO. TtNUS-001

sample_no	run_number	parameter	method	units	idl	mdl	crdl_crql	dil_factor	pct_moist
NASJ-159-GH-35-16	1	Mercury	7471	mg/Kg	0.004		0.01	1	17
NASJ-159-GH-35-16	1	Silver	3050/6010	mg/Kg	0.05		2	1	17
NASJ-159-GH-35-16	1	Arsenic	3050/6010	mg/Kg	0.4		0.6	1	17
NASJ-159-GH-35-16	1	Barium	3050/6010	mg/Kg	0.1		24	1	17
NASJ-159-GH-35-16	1	Cadmium	3050/6010	mg/Kg	0.05		1	1	17
NASJ-159-GH-35-16	1	Chromium	3050/6010	mg/Kg	0.15		1	1	17
NASJ-159-GH-35-16	1	Lead	3050/6010	mg/Kg	0.15		1	1	17
NASJ-159-GH-35-16	1	Selenium	3050/6010	mg/Kg	0.2		2	1	17
NASJ-159-GH-35-16	1	Naphthalene	3550/8310	ug/Kg		8.1	20	1	17
NASJ-159-GH-35-16	1	Acenaphthylene	3550/8310	ug/Kg		4	40	1	17
NASJ-159-GH-35-16	1	1-Methylnaphthalene	3550/8310	ug/Kg		4	40	1	17
NASJ-159-GH-35-16	1	2-Methylnaphthalene	3550/8310	ug/Kg		8.1	40	1	17
NASJ-159-GH-35-16	1	Acenaphthene	3550/8310	ug/Kg		8.1	20	1	17
NASJ-159-GH-35-16	1	Fluorene	3550/8310	ug/Kg		1.6	4	1	17
NASJ-159-GH-35-16	1	Phenanthrene	3550/8310	ug/Kg		1.6	40	1	17
NASJ-159-GH-35-16	1	Anthracene	3550/8310	ug/Kg		1	2	1	17
NASJ-159-GH-35-16	1	Fluoranthene	3550/8310	ug/Kg		1.6	4	1	17
NASJ-159-GH-35-16	1	Pyrene	3550/8310	ug/Kg		1.6	2	1	17
NASJ-159-GH-35-16	1	Benzo(a)anthracene	3550/8310	ug/Kg		0.81	2	1	17
NASJ-159-GH-35-16	1	Chrysene	3550/8310	ug/Kg		0.81	2	1	17
NASJ-159-GH-35-16	1	Benzo(b)fluoranthene	3550/8310	ug/Kg		2	4	1	17
NASJ-159-GH-35-16	1	Benzo(k)fluoranthene	3550/8310	ug/Kg		1	2	1	17
NASJ-159-GH-35-16	1	Benzo(a)pyrene	3550/8310	ug/Kg		1	2	1	17
NASJ-159-GH-35-16	1	Dibenzo(a,h)anthracene	3550/8310	ug/Kg		2.8	4	1	17
NASJ-159-GH-35-16	1	Benzo(g,h,i)perylene	3550/8310	ug/Kg		2.8	4	1	17
NASJ-159-GH-35-16	1	Indeno(1,2,3-cd)pyrene	3550/8310	ug/Kg		0.81	2	1	17
NASJ-159-GH-35-16	1	P-Terphenyl	3550/8310	%				1	
NASJ-159-GH-35-16	1	Methyl tert-butyl ether	5035/8021	ug/Kg		2	2	0.91	17
NASJ-159-GH-35-16	1	Benzene	5035/8021	ug/Kg		0.8	1.1	0.91	17
NASJ-159-GH-35-16	1	Toluene	5035/8021	ug/Kg		1	1.1	0.91	17
NASJ-159-GH-35-16	1	Chlorobenzene	5035/8021	ug/Kg		1	1.1	0.91	17
NASJ-159-GH-35-16	1	Ethylbenzene	5035/8021	ug/Kg		1	1.1	0.91	17
NASJ-159-GH-35-16	1	m-Xylene & p-Xylene	5035/8021	ug/Kg		2	2	0.91	17
NASJ-159-GH-35-16	1	o-Xylene	5035/8021	ug/Kg		1.1	1.1	0.91	17
NASJ-159-GH-35-16	1	1,3-Dichlorobenzene	5035/8021	ug/Kg		1.1	1.1	0.91	17
NASJ-159-GH-35-16	1	1,4-Dichlorobenzene	5035/8021	ug/Kg		1.1	1.1	0.91	17
NASJ-159-GH-35-16	1	1,2-Dichlorobenzene	5035/8021	ug/Kg		1.1	1.1	0.91	17
NASJ-159-GH-35-16	1	Bromofluorobenzene	5035/8021	%				0.91	
NASJ-159-GH-35-16	1	Hydrocarbons (C8-C40)	FLPRO	mg/Kg		8	8	1	17
NASJ-159-GH-35-16	1	o-Terphenyl	FLPRO	%				1	
NASJ-159-GH-35-16	1	Nonatriacontane	FLPRO	%				1	
NASJ-159-GH-35-16	1	Percent Solids	SM2540G	%		0.01	0.01		

NASJ-159-GH-36-4	1	Mercury	7471	mg/Kg	0.004		0.01	1	10
NASJ-159-GH-36-4	1	Silver	3050/6010	mg/Kg	0.05		2	1	10
NASJ-159-GH-36-4	1	Arsenic	3050/6010	mg/Kg	0.4		0.6	1	10
NASJ-159-GH-36-4	1	Barium	3050/6010	mg/Kg	0.1		22	1	10
NASJ-159-GH-36-4	1	Cadmium	3050/6010	mg/Kg	0.05		1	1	10
NASJ-159-GH-36-4	1	Chromium	3050/6010	mg/Kg	0.15		1	1	10
NASJ-159-GH-36-4	1	Lead	3050/6010	mg/Kg	0.15		1	1	10
NASJ-159-GH-36-4	1	Selenium	3050/6010	mg/Kg	0.2		2	1	10
NASJ-159-GH-36-4	1	Naphthalene	3550/8310	ug/Kg		7.4	19	1	10
NASJ-159-GH-36-4	1	Acenaphthylene	3550/8310	ug/Kg		3.7	37	1	10
NASJ-159-GH-36-4	1	1-Methylnaphthalene	3550/8310	ug/Kg		3.7	37	1	10
NASJ-159-GH-36-4	1	2-Methylnaphthalene	3550/8310	ug/Kg		7.4	37	1	10
NASJ-159-GH-36-4	1	Acenaphthene	3550/8310	ug/Kg		7.4	19	1	10
NASJ-159-GH-36-4	1	Fluorene	3550/8310	ug/Kg		1.5	3.7	1	10
NASJ-159-GH-36-4	1	Phenanthrene	3550/8310	ug/Kg		1.5	37	1	10
NASJ-159-GH-36-4	1	Anthracene	3550/8310	ug/Kg		1	2	1	10
NASJ-159-GH-36-4	1	Fluoranthene	3550/8310	ug/Kg		1.5	3.7	1	10
NASJ-159-GH-36-4	1	Pyrene	3550/8310	ug/Kg		1.5	1.9	1	10
NASJ-159-GH-36-4	1	Benzo(a)anthracene	3550/8310	ug/Kg		0.74	1.9	1	10
NASJ-159-GH-36-4	1	Chrysene	3550/8310	ug/Kg		0.74	1.9	1	10
NASJ-159-GH-36-4	1	Benzo(b)fluoranthene	3550/8310	ug/Kg		2	3	1	10
NASJ-159-GH-36-4	1	Benzo(k)fluoranthene	3550/8310	ug/Kg		1	2	1	10
NASJ-159-GH-36-4	1	Benzo(a)pyrene	3550/8310	ug/Kg		1	2	1	10
NASJ-159-GH-36-4	1	Dibenzo(a,h)anthracene	3550/8310	ug/Kg		2.6	3.7	1	10
NASJ-159-GH-36-4	1	Benzo(g,h,i)perylene	3550/8310	ug/Kg		2.6	3.7	1	10
NASJ-159-GH-36-4	1	Indeno(1,2,3-cd)pyrene	3550/8310	ug/Kg		0.74	1.9	1	10
NASJ-159-GH-36-4	1	P-Terphenyl	3550/8310	%				1	
NASJ-159-GH-36-4	1	Methyl tert-butyl ether	5035/8021	ug/Kg		2	2	1.14	10
NASJ-159-GH-36-4	1	Benzene	5035/8021	ug/Kg		1	1.2	1.14	10
NASJ-159-GH-36-4	1	Toluene	5035/8021	ug/Kg		1	1.2	1.14	10
NASJ-159-GH-36-4	1	Chlorobenzene	5035/8021	ug/Kg		1	1.2	1.14	10
NASJ-159-GH-36-4	1	Ethylbenzene	5035/8021	ug/Kg		1	1.2	1.14	10
NASJ-159-GH-36-4	1	m-Xylene & p-Xylene	5035/8021	ug/Kg		2	2	1.14	10
NASJ-159-GH-36-4	1	o-Xylene	5035/8021	ug/Kg		1	1	1.14	10
NASJ-159-GH-36-4	1	1,3-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.14	10
NASJ-159-GH-36-4	1	1,4-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.14	10
NASJ-159-GH-36-4	1	1,2-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.14	10
NASJ-159-GH-36-4	1	Bromofluorobenzene	5035/8021	%				1.14	
NASJ-159-GH-36-4	1	Hydrocarbons (C8-C40)	FLPRO	mg/Kg		7.3	7.3	1	10
NASJ-159-GH-36-4	1	o-Terphenyl	FLPRO	%				1	
NASJ-159-GH-36-4	1	Nonatriacontane	FLPRO	%				1	
NASJ-159-GH-36-4	1	Percent Solids	SM2540G	%		0.01	0.01		

NASJ-159-GH-37-4	1	Mercury	7471	mg/Kg	0.004		0.01	1	21
NASJ-159-GH-37-4	1	Silver	3050/6010	mg/Kg	0.05		2	1	21
NASJ-159-GH-37-4	1	Arsenic	3050/6010	mg/Kg	0.4		0.6	1	21
NASJ-159-GH-37-4	1	Barium	3050/6010	mg/Kg	0.1		25	1	21
NASJ-159-GH-37-4	1	Cadmium	3050/6010	mg/Kg	0.05		1	1	21
NASJ-159-GH-37-4	1	Chromium	3050/6010	mg/Kg	0.15		1	1	21
NASJ-159-GH-37-4	1	Lead	3050/6010	mg/Kg	0.15		1	1	21
NASJ-159-GH-37-4	1	Selenium	3050/6010	mg/Kg	0.2		2	1	21
NASJ-159-GH-37-4	1	Naphthalene	3550/8310	ug/Kg		8.5	21	1	21
NASJ-159-GH-37-4	1	Acenaphthylene	3550/8310	ug/Kg		4.2	42	1	21
NASJ-159-GH-37-4	1	1-Methylnaphthalene	3550/8310	ug/Kg		4.2	42	1	21
NASJ-159-GH-37-4	1	2-Methylnaphthalene	3550/8310	ug/Kg		8.5	42	1	21
NASJ-159-GH-37-4	1	Acenaphthene	3550/8310	ug/Kg		8.5	21	1	21
NASJ-159-GH-37-4	1	Fluorene	3550/8310	ug/Kg		1.7	4.2	1	21
NASJ-159-GH-37-4	1	Phenanthrene	3550/8310	ug/Kg		1.7	42	1	21
NASJ-159-GH-37-4	1	Anthracene	3550/8310	ug/Kg		1	2	1	21
NASJ-159-GH-37-4	1	Fluoranthene	3550/8310	ug/Kg		1.7	4.2	1	21
NASJ-159-GH-37-4	1	Pyrene	3550/8310	ug/Kg		1.7	2.1	1	21
NASJ-159-GH-37-4	1	Benzo(a)anthracene	3550/8310	ug/Kg		0.85	2.1	1	21
NASJ-159-GH-37-4	1	Chrysene	3550/8310	ug/Kg		0.85	2.1	1	21
NASJ-159-GH-37-4	1	Benzo(b)fluoranthene	3550/8310	ug/Kg		2	4	1	21
NASJ-159-GH-37-4	1	Benzo(k)fluoranthene	3550/8310	ug/Kg		1	2	1	21
NASJ-159-GH-37-4	1	Benzo(a)pyrene	3550/8310	ug/Kg		1	2	1	21
NASJ-159-GH-37-4	1	Dibenzo(a,h)anthracene	3550/8310	ug/Kg		3	4.2	1	21
NASJ-159-GH-37-4	1	Benzo(g,h,i)perylene	3550/8310	ug/Kg		3	4.2	1	21
NASJ-159-GH-37-4	1	Indeno(1,2,3-cd)pyrene	3550/8310	ug/Kg		0.85	2.1	1	21
NASJ-159-GH-37-4	1	P-Terphenyl	3550/8310	%				1	
NASJ-159-GH-37-4	1	Methyl tert-butyl ether	5035/8021	ug/Kg		2	2	1.05	21
NASJ-159-GH-37-4	1	Benzene	5035/8021	ug/Kg		1	1	1.05	21
NASJ-159-GH-37-4	1	Toluene	5035/8021	ug/Kg		1.1	1	1.05	21
NASJ-159-GH-37-4	1	Chlorobenzene	5035/8021	ug/Kg		1.1	1	1.05	21
NASJ-159-GH-37-4	1	Ethylbenzene	5035/8021	ug/Kg		1.1	1	1.05	21
NASJ-159-GH-37-4	1	m-Xylene & p-Xylene	5035/8021	ug/Kg		2	2	1.05	21
NASJ-159-GH-37-4	1	o-Xylene	5035/8021	ug/Kg		1	1	1.05	21
NASJ-159-GH-37-4	1	1,3-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.05	21
NASJ-159-GH-37-4	1	1,4-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.05	21
NASJ-159-GH-37-4	1	1,2-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.05	21
NASJ-159-GH-37-4	1	Bromofluorobenzene	5035/8021	%				1.05	
NASJ-159-GH-37-4	1	Hydrocarbons (C8-C40)	FLPRO	mg/Kg		8.4	8.4	1	21
NASJ-159-GH-37-4	1	o-Terphenyl	FLPRO	%				1	
NASJ-159-GH-37-4	1	Nonatriacontane	FLPRO	%				1	
NASJ-159-GH-37-4	1	Percent Solids	SM2540G	%		0.01	0.01		

NASJ-159-GH-38-14	1	Mercury	7471	mg/Kg	0.004		0.01	1	20
NASJ-159-GH-38-14	1	Silver	3050/6010	mg/Kg	0.05		2	1	20
NASJ-159-GH-38-14	1	Arsenic	3050/6010	mg/Kg	0.4		0.6	1	20
NASJ-159-GH-38-14	1	Barium	3050/6010	mg/Kg	0.1		25	1	20
NASJ-159-GH-38-14	1	Cadmium	3050/6010	mg/Kg	0.05		1	1	20
NASJ-159-GH-38-14	1	Chromium	3050/6010	mg/Kg	0.15		1	1	20
NASJ-159-GH-38-14	1	Lead	3050/6010	mg/Kg	0.15		1	1	20
NASJ-159-GH-38-14	1	Selenium	3050/6010	mg/Kg	0.2		2	1	20
NASJ-159-GH-38-14	1	Naphthalene	3550/8310	ug/Kg		8.4	21	1	20
NASJ-159-GH-38-14	1	Acenaphthylene	3550/8310	ug/Kg		4.1	42	1	20
NASJ-159-GH-38-14	1	1-Methylnaphthalene	3550/8310	ug/Kg		4.1	42	1	20
NASJ-159-GH-38-14	1	2-Methylnaphthalene	3550/8310	ug/Kg		8.4	42	1	20
NASJ-159-GH-38-14	1	Acenaphthene	3550/8310	ug/Kg		8.4	21	1	20
NASJ-159-GH-38-14	1	Fluorene	3550/8310	ug/Kg		1.7	4.2	1	20
NASJ-159-GH-38-14	1	Phenanthrene	3550/8310	ug/Kg		1.7	42	1	20
NASJ-159-GH-38-14	1	Anthracene	3550/8310	ug/Kg		1	2	1	20
NASJ-159-GH-38-14	1	Fluoranthene	3550/8310	ug/Kg		1.7	4.2	1	20
NASJ-159-GH-38-14	1	Pyrene	3550/8310	ug/Kg		1.7	2.1	1	20
NASJ-159-GH-38-14	1	Benzo(a)anthracene	3550/8310	ug/Kg		0.84	2.1	1	20
NASJ-159-GH-38-14	1	Chrysene	3550/8310	ug/Kg		0.84	2.1	1	20
NASJ-159-GH-38-14	1	Benzo(b)fluoranthene	3550/8310	ug/Kg		2	4	1	20
NASJ-159-GH-38-14	1	Benzo(k)fluoranthene	3550/8310	ug/Kg		1	2	1	20
NASJ-159-GH-38-14	1	Benzo(a)pyrene	3550/8310	ug/Kg		1	2	1	20
NASJ-159-GH-38-14	1	Dibenzo(a,h)anthracene	3550/8310	ug/Kg		2.9	4.2	1	20
NASJ-159-GH-38-14	1	Benzo(g,h,i)perylene	3550/8310	ug/Kg		2.9	4.2	1	20
NASJ-159-GH-38-14	1	Indeno(1,2,3-cd)pyrene	3550/8310	ug/Kg		0.84	2.1	1	20
NASJ-159-GH-38-14	1	P-Terphenyl	3550/8310	%				1	
NASJ-159-GH-38-14	1	Methyl tert-butyl ether	5035/8021	ug/Kg		2	2	1.16	20
NASJ-159-GH-38-14	1	Benzene	5035/8021	ug/Kg		1.1	1.5	1.16	20
NASJ-159-GH-38-14	1	Toluene	5035/8021	ug/Kg		1	1.5	1.16	20
NASJ-159-GH-38-14	1	Chlorobenzene	5035/8021	ug/Kg		1	1.5	1.16	20
NASJ-159-GH-38-14	1	Ethylbenzene	5035/8021	ug/Kg		1	1.5	1.16	20
NASJ-159-GH-38-14	1	m-Xylene & p-Xylene	5035/8021	ug/Kg		2	2	1.16	20
NASJ-159-GH-38-14	1	o-Xylene	5035/8021	ug/Kg		1	1	1.16	20
NASJ-159-GH-38-14	1	1,3-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.16	20
NASJ-159-GH-38-14	1	1,4-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.16	20
NASJ-159-GH-38-14	1	1,2-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.16	20
NASJ-159-GH-38-14	1	Bromofluorobenzene	5035/8021	%				1.16	
NASJ-159-GH-38-14	1	Hydrocarbons (C8-C40)	FLPRO	mg/Kg		8.2	8.2	1	20
NASJ-159-GH-38-14	1	o-Terphenyl	FLPRO	%				1	
NASJ-159-GH-38-14	1	Nonatriacontane	FLPRO	%				1	
NASJ-159-GH-38-14	1	Percent Solids	SM2540G	%		0.01	0.01		

NASJ-159-GH-39-14	1	Mercury	7471	mg/Kg	0.004		0.01	1	23
NASJ-159-GH-39-14	1	Silver	3050/6010	mg/Kg	0.05		2	1	23
NASJ-159-GH-39-14	1	Arsenic	3050/6010	mg/Kg	0.4		0.6	1	23
NASJ-159-GH-39-14	1	Barium	3050/6010	mg/Kg	0.1		26	1	23
NASJ-159-GH-39-14	1	Cadmium	3050/6010	mg/Kg	0.05		1	1	23
NASJ-159-GH-39-14	1	Chromium	3050/6010	mg/Kg	0.15		1	1	23
NASJ-159-GH-39-14	1	Lead	3050/6010	mg/Kg	0.15		1	1	23
NASJ-159-GH-39-14	1	Selenium	3050/6010	mg/Kg	0.2		2	1	23
NASJ-159-GH-39-14	1	Naphthalene	3550/8310	ug/Kg		8.7	22	1	23
NASJ-159-GH-39-14	1	Acenaphthylene	3550/8310	ug/Kg		4.3	43	1	23
NASJ-159-GH-39-14	1	1-Methylnaphthalene	3550/8310	ug/Kg		4.3	43	1	23
NASJ-159-GH-39-14	1	2-Methylnaphthalene	3550/8310	ug/Kg		8.7	43	1	23
NASJ-159-GH-39-14	1	Acenaphthene	3550/8310	ug/Kg		8.7	22	1	23
NASJ-159-GH-39-14	1	Fluorene	3550/8310	ug/Kg		1.7	4.3	1	23
NASJ-159-GH-39-14	1	Phenanthrene	3550/8310	ug/Kg		1.7	43	1	23
NASJ-159-GH-39-14	1	Anthracene	3550/8310	ug/Kg		1	2	1	23
NASJ-159-GH-39-14	1	Fluoranthene	3550/8310	ug/Kg		1.7	4.3	1	23
NASJ-159-GH-39-14	1	Pyrene	3550/8310	ug/Kg		1.7	2.2	1	23
NASJ-159-GH-39-14	1	Benzo(a)anthracene	3550/8310	ug/Kg		0.87	2.2	1	23
NASJ-159-GH-39-14	1	Chrysene	3550/8310	ug/Kg		0.87	2.2	1	23
NASJ-159-GH-39-14	1	Benzo(b)fluoranthene	3550/8310	ug/Kg		2	4	1	23
NASJ-159-GH-39-14	1	Benzo(k)fluoranthene	3550/8310	ug/Kg		1	2	1	23
NASJ-159-GH-39-14	1	Benzo(a)pyrene	3550/8310	ug/Kg		1	2	1	23
NASJ-159-GH-39-14	1	Dibenzo(a,h)anthracene	3550/8310	ug/Kg		3	4.3	1	23
NASJ-159-GH-39-14	1	Benzo(g,h,i)perylene	3550/8310	ug/Kg		3	4.3	1	23
NASJ-159-GH-39-14	1	Indeno(1,2,3-cd)pyrene	3550/8310	ug/Kg		0.87	2.2	1	23
NASJ-159-GH-39-14	1	P-Terphenyl	3550/8310	%				1	
NASJ-159-GH-39-14	1	Methyl tert-butyl ether	5035/8021	ug/Kg		2	2	1.19	23
NASJ-159-GH-39-14	1	Benzene	5035/8021	ug/Kg		1	1.6	1.19	23
NASJ-159-GH-39-14	1	Toluene	5035/8021	ug/Kg		1.4	1.6	1.19	23
NASJ-159-GH-39-14	1	Chlorobenzene	5035/8021	ug/Kg		1.4	1.6	1.19	23
NASJ-159-GH-39-14	1	Ethylbenzene	5035/8021	ug/Kg		1.4	1.6	1.19	23
NASJ-159-GH-39-14	1	m-Xylene & p-Xylene	5035/8021	ug/Kg		2	2	1.19	23
NASJ-159-GH-39-14	1	o-Xylene	5035/8021	ug/Kg		1	1	1.19	23
NASJ-159-GH-39-14	1	1,3-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.19	23
NASJ-159-GH-39-14	1	1,4-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.19	23
NASJ-159-GH-39-14	1	1,2-Dichlorobenzene	5035/8021	ug/Kg		1	1	1.19	23
NASJ-159-GH-39-14	1	Bromofluorobenzene	5035/8021	%				1.19	
NASJ-159-GH-39-14	1	Hydrocarbons (C8-C40)	FLPRO	mg/Kg		8.6	8.6	1	23
NASJ-159-GH-39-14	1	o-Terphenyl	FLPRO	%				1	
NASJ-159-GH-39-14	1	Nonatriacontane	FLPRO	%				1	
NASJ-159-GH-39-14	1	Percent Solids	SM2540G	%		0.01	0.01		

APPENDIX E

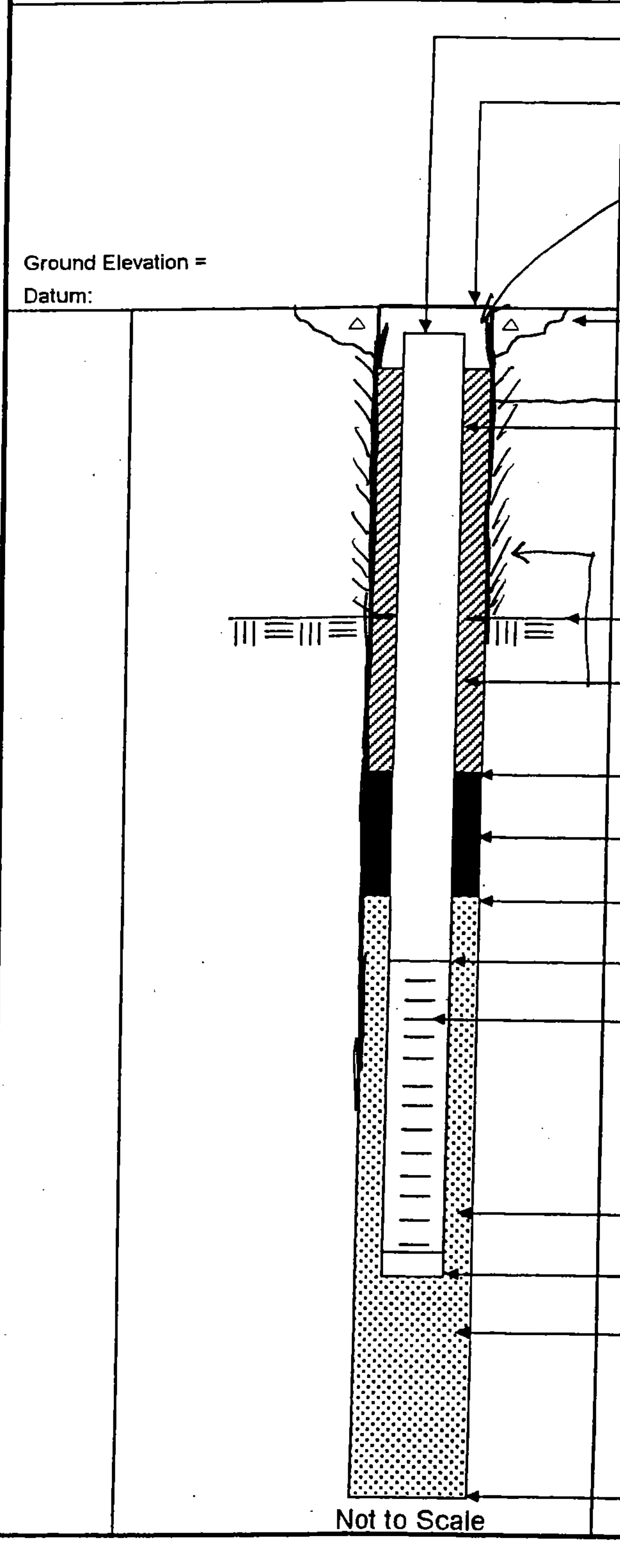
WELL COMPLETION LOGS

Tetra Tech NUS, Inc.

WELL No.: JAX-159-GH-28

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JACKSONVILLE	DRILLING Co.:	PRECISION	BORING No.:	001
PROJECT No.:	~~0039~~ 0255	DRILLER:	G. PIJAK	DATE COMPLETED:	07/27/99
SITE:	GAS HILL	DRILLING METHOD:	Hollow Stem/Mud Rotary	NORTHING:	
GEOLOGIST:	M. DALE	DEV. METHOD:	Submersible	EASTING:	



Elevation / Depth of Top of Riser: 1 4 IN.

Elevation / Height of Top of Surface Casing: 1 ∅ FT.

HEIGHT OF TOP OF SECONDARY CASING MD 1 ∅ FT

I.D. of Surface Casing: 8 ~~2~~ INCH

~~I.D. OF MD~~

Type of Surface Casing: Steel Cover

Type of Surface Seal: SAKRETE Concrete

I.D. OF SECONDARY CASING 6 INCH

I.D. of Riser: 2 INCH

Type of Secondary ~~Riser~~ CASING: PVC, SCH. 40

Type of Riser: PVC, SCH. 40

OUTER BOREhole DIAM: 12 INCH

INNER Borehole Diameter: 6 INCH

Elevation / Depth Top of Rock: N/A

Type of Backfill: PORTLAND CEMENT Type I (used some bentonite powder on inner backfill)

Elevation / Depth of Seal: 1 26 FT.

Type of Seal: BENTONITE CHIPS

Elevation / Depth of Top of Filter Pack: 1 28 FT.

Elevation / Depth of Top of Screen: 1 30 FT.

Type of Screen: PVC, SCH. 40

Slot Size x Length: 0.010 IN X 5 FT.

I.D. of Screen: 2 INCH

Type of Filter Pack: 20/30 GRADE SAND

Elevation / Depth of Bottom of Screen: 1 35 FT.

Elevation / Depth of Bottom of Filter Pack: 1 35 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: 1 35 FT.

Tetra Tech NUS, Inc.

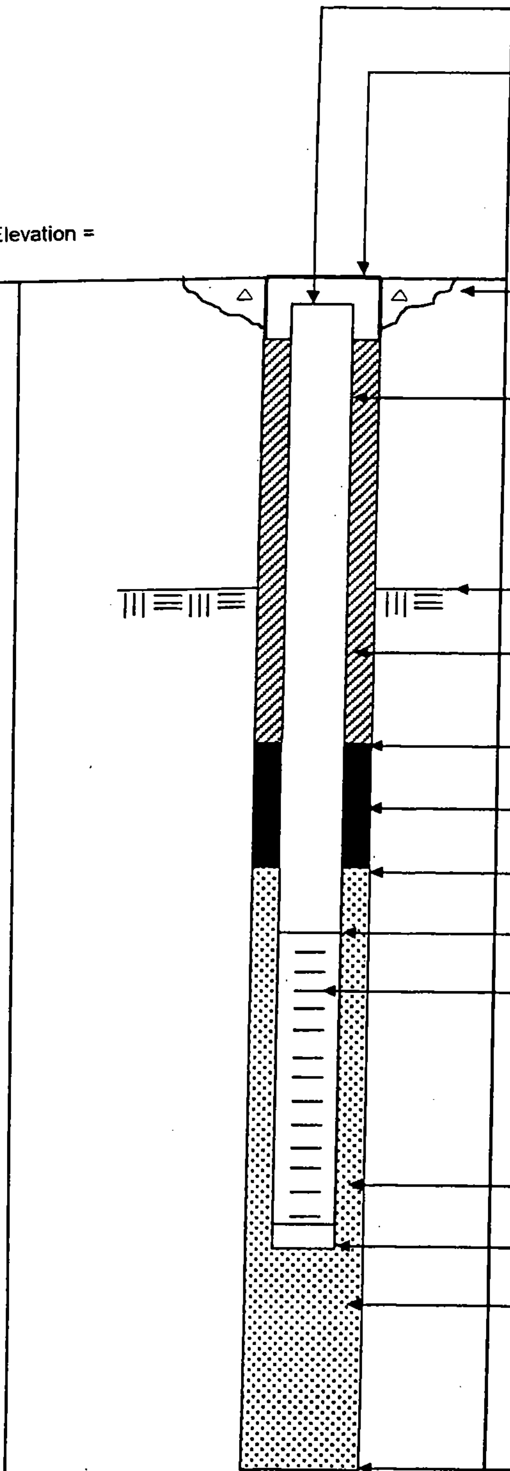
WELL No.: JAX-159-GH-29

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JAX	DRILLING Co.:	Precision	BORING No.:	002
PROJECT No.:	~~0030~~ 0255	DRILLER:	G. PIJAK	DATE COMPLETED:	07/27/99
SITE:	GAS HILL	DRILLING METHOD:	Hollow Stem	NORTHING:	
GEOLOGIST:	M. DALE	DEV. METHOD:	Submersible	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser:	/ 3 IN.
Elevation / Height of Top of Surface Casing:	/ 0
I.D. of Surface Casing:	8 IN.
Type of Surface Casing:	Steel Cover
Type of Surface Seal:	SAKRETE CONCRETE
I.D. of Riser:	2 INCH
Type of Riser:	PVC, Sch. 40
Borehole Diameter:	8 INCH
Elevation / Depth Top of Rock:	/ N/A
Type of Backfill:	PORTLAND Cement Type I
Elevation / Depth of Seal:	/ 14 IN.
Type of Seal:	ENVIROPLUG BENTONITE CHIPS
Elevation / Depth of Top of Filter Pack:	/ 2 FT.
Elevation / Depth of Top of Screen:	/ 3 FT.
Type of Screen:	PVC, SCH. 40
Slot Size x Length:	0.010 IN. / 10 FT.
I.D. of Screen:	2 INCH
Type of Filter Pack:	20/30 GRADE SAND
Elevation / Depth of Bottom of Screen:	/ 13 FT.
Elevation / Depth of Bottom of Filter Pack:	/ 13 FT.
Type of Backfill Below Well:	NATIVE SOIL
Elevation / Total Depth of Borehole:	/ 13 FT.

Tetra Tech NUS, Inc.

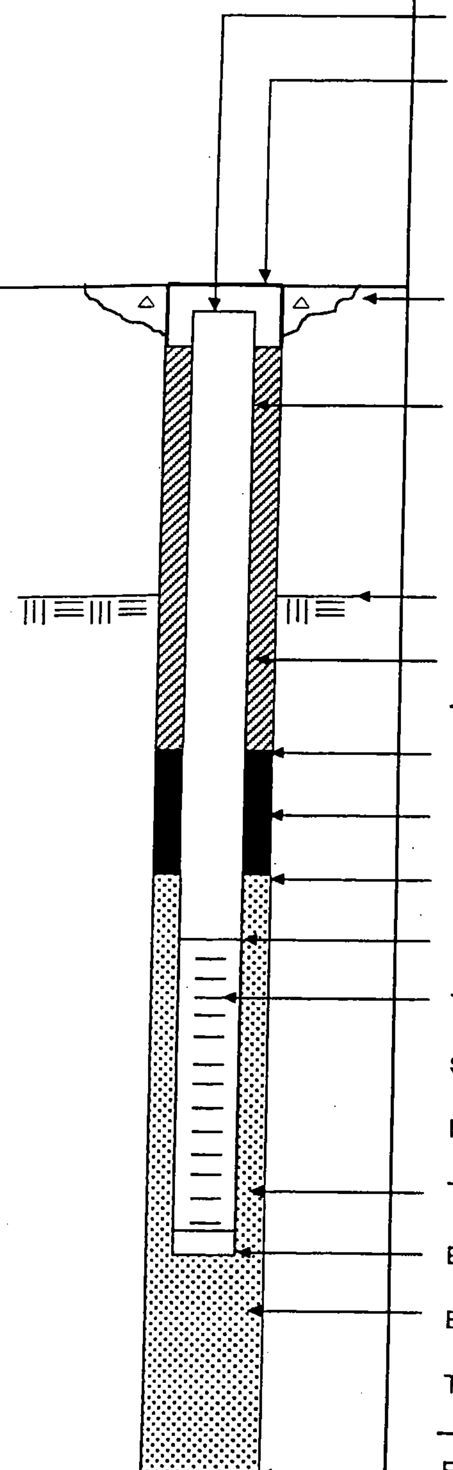
WELL No.: JAX-159-GH-30

MONITORING WELL SHEET

PROJECT:	NAS CECIL FIELD	DRILLING Co.:	PRECISION	BORING No.:	003
PROJECT No.:	~~0030~~ 0255	DRILLER:	G. PIJAK	DATE COMPLETED:	07/27/99
SITE:	GAS HILL	DRILLING METHOD:	Hollow Stem	NORTHING:	
GEOLOGIST:	M. DALE	DEV. METHOD:	Submersible	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 3 IN.

Elevation / Height of Top of Surface Casing: / 8 FT.

I.D. of Surface Casing: 8 IN.

Type of Surface Casing: Steel Cover

Type of Surface Seal: SAKRETE Concrete

I.D. of Riser: 2 INCH

Type of Riser: PVC, Sch.40

Borehole Diameter: 8 INCH

Elevation / Depth Top of Rock: N/A

Type of Backfill: PORTLAND Cement Type I

Elevation / Depth of Seal: / 14 IN.

Type of Seal: BENTONITE CHIPS

Elevation / Depth of Top of Filter Pack: / 2 FT.

Elevation / Depth of Top of Screen: / 3 FT.

Type of Screen: PVC, SCH.40

Slot Size x Length: 0.010 IN. / 10 FT.

I.D. of Screen: 2 INCH

Type of Filter Pack: 20/30 GRADE SAND

Elevation / Depth of Bottom of Screen: / 13 FT.

Elevation / Depth of Bottom of Filter Pack: / 13 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 13 FT.

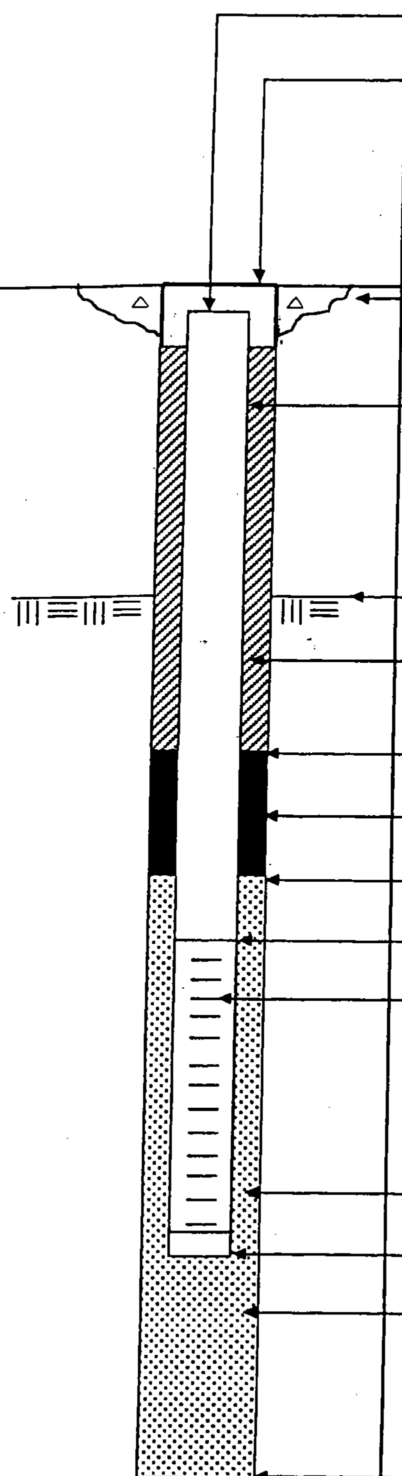
Tetra Tech NUS, Inc.

WELL No.: JAX-159-GH-31

MONITORING WELL SHEET

PROJECT:	NAS CECIL FIELD	DRILLING Co.:	PRECISION	BORING No.:	004
PROJECT No.:	~~0030~~ 0255	DRILLER:	G. PITAK	DATE COMPLETED:	07/27/99
SITE:	GAS HILL	DRILLING METHOD:	Hollow Stem	NORTHING:	
GEOLOGIST:	M. DALE	DEV. METHOD:	Submersible	EASTING:	

Ground Elevation =
Datum:


Not to Scale

- Elevation / Depth of Top of Riser: / 3 IN.
- Elevation / Height of Top of Surface Casing: / 4 FT.
- I.D. of Surface Casing: 8 IN.
- Type of Surface Casing: Steel Cover
- Type of Surface Seal: SAKRETE Concrete
- I.D. of Riser: 2 INCH
- Type of Riser: PVC, Sch. 40
- Borehole Diameter: 8 INCH
- Elevation / Depth Top of Rock: N/A
- Type of Backfill: PORTLAND Cement Type I
- Elevation / Depth of Seal: / 18 IN.
- Type of Seal: BENTONITE CHIPS
- Elevation / Depth of Top of Filter Pack: / 2 FT.
- Elevation / Depth of Top of Screen: / 3 FT.
- Type of Screen: PVC, SCH. 40
- Slot Size x Length: 0.010 IN. / 10 FT.
- I.D. of Screen: 2 INCH
- Type of Filter Pack: 20/30 GRADE SAND
- Elevation / Depth of Bottom of Screen: / 13 FT.
- Elevation / Depth of Bottom of Filter Pack: / 13 FT.
- Type of Backfill Below Well: NATIVE SOIL
- Elevation / Total Depth of Borehole: / 13 FT.

Tetra Tech NUS, Inc.

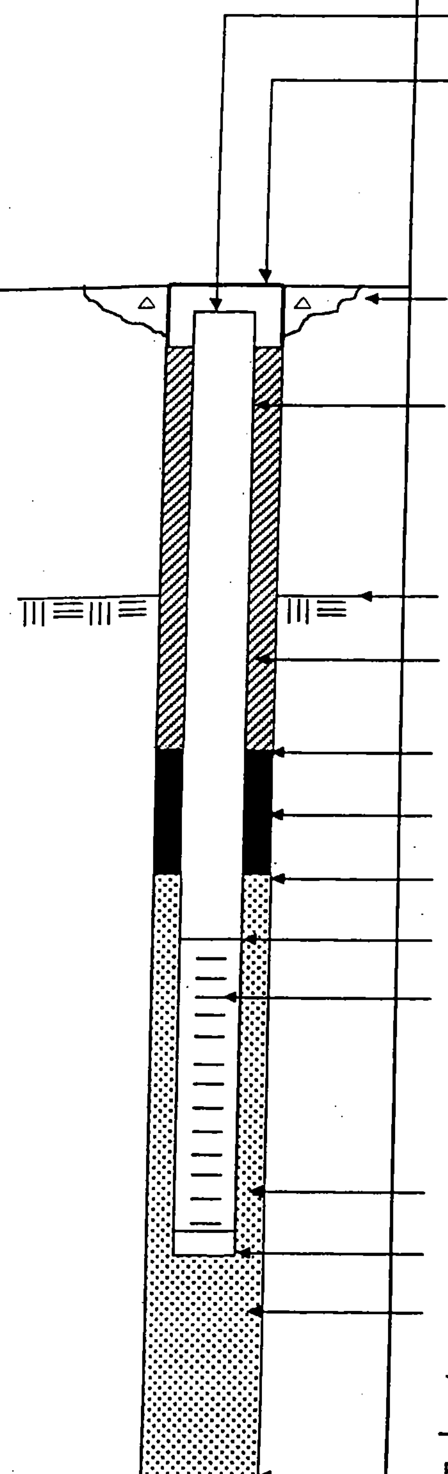
WELL No.: NASJ-159-GH-32

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JAX	DRILLING Co.:	GROUNDWATER PROTECTION	BORING No.:	1
PROJECT No.:	~~0030~~ 0255	DRILLER:	C. Bucher	DATE COMPLETED:	08/30/99
SITE:	GAS HILL	DRILLING METHOD:	DPT	NORTHING:	
GEOLOGIST:	M. DAVE	DEV. METHOD:	Peristaltic pump	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2 in.

Elevation / Height of Top of Surface Casing: / 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (Locking)

Type of Surface Seal: concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type 1

Elevation / Depth of Seal: / 1 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 1.5 FT.

Elevation / Depth of Top of Screen: / 2.5 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 in. x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 11.5 FT.

Elevation / Depth of Bottom of Filter Pack: / 11.5 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 11.5 FT.

Tetra Tech NUS, Inc.

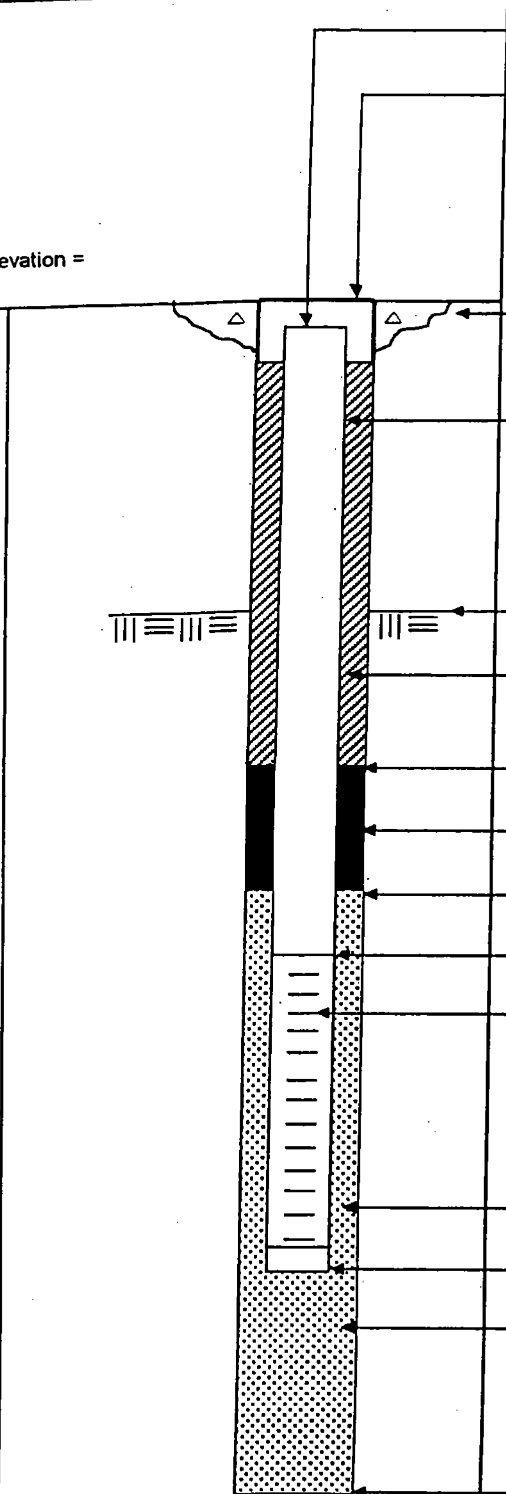
WELL No.: NASJ-159-GH-33

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JAX	DRILLING Co.:	GROUNDWATER PROTECTION	BORING No.:	2
PROJECT No.:	~~0030~~ 0255	DRILLER:	C. Bucher	DATE COMPLETED:	08/30/99
SITE:	GAS HILL	DRILLING METHOD:	DPT	NORTHING:	
GEOLOGIST:	M. DAVE	DEV. METHOD:	Peristaltic	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2 IN.

Elevation / Height of Top of Surface Casing: / 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (Locking)

Type of Surface Seal: concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: / 1 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 1.5 FT.

Elevation / Depth of Top of Screen: / 2.5 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 in. x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 11.5 FT.

Elevation / Depth of Bottom of Filter Pack: / 11.5 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 11.5 FT.

Tetra Tech NUS, Inc.

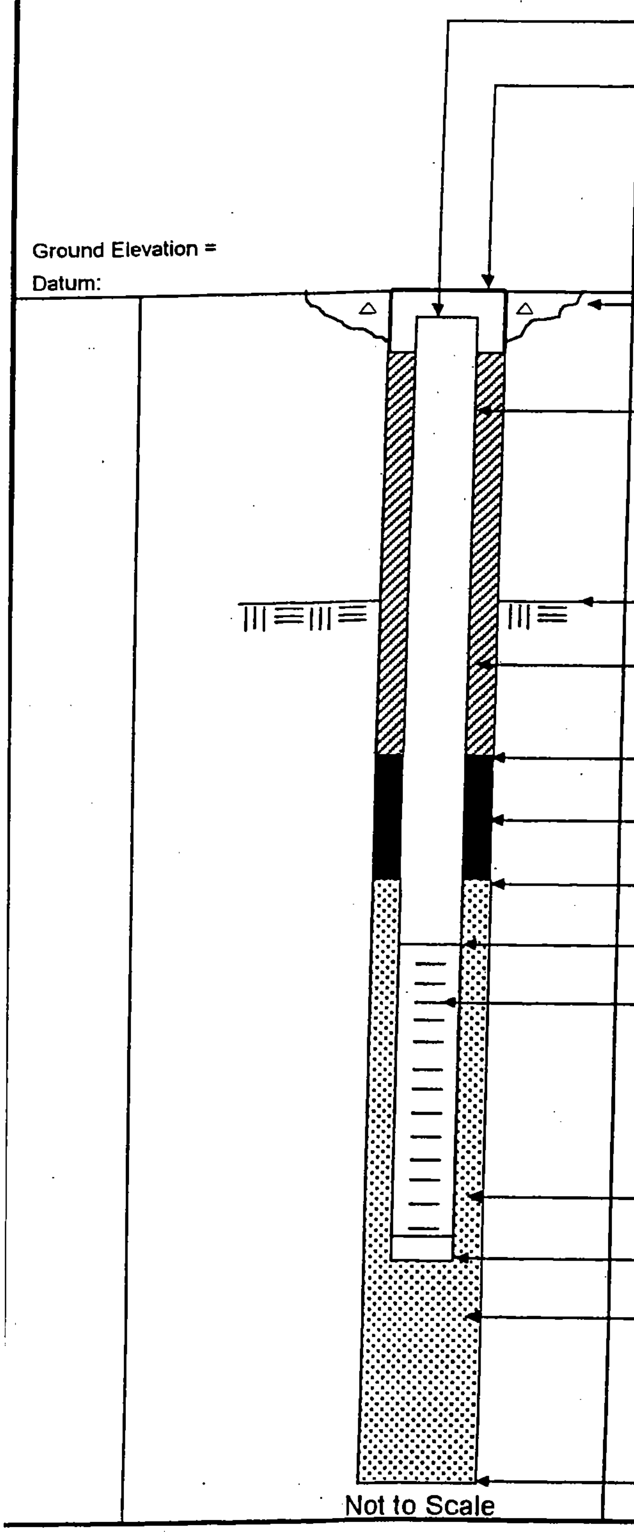
WELL No.: NASJ-159-GH-34

MONITORING WELL SHEET

PROJECT: NAS ~~CECIL FIELD~~ JAX
PROJECT No.: ~~0030~~ 0255
SITE: GAS HILL
GEOLOGIST: M. DAVE

DRILLING Co.: GROUNDWATER PROTECTION
DRILLER: C. Bucher
DRILLING METHOD: DPT
DEV. METHOD: Peristaltic

BORING No.: 3
DATE COMPLETED: 08/30/99
NORTHING:
EASTING:



Elevation / Depth of Top of Riser: / 2 IN.

Elevation / Height of Top of Surface Casing: / 8 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (locking)

Type of Surface Seal: concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inch

Elevation / Depth Top of Rock: N/A

Type of Backfill: PORTLAND Cement Type I

Elevation / Depth of Seal: / 1 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 2 FT.

Elevation / Depth of Top of Screen: / 3.5 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 12.5 FT.

Elevation / Depth of Bottom of Filter Pack: / 12.5 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 12.5 FT.

Tetra Tech NUS, Inc.

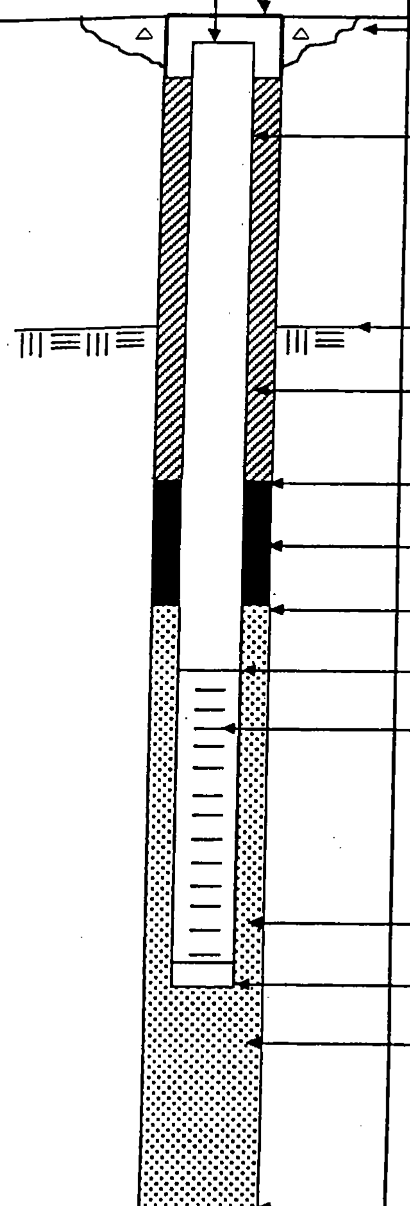
WELL No.: NASJ-159-GH-35

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JAX	DRILLING Co.:	GROUNDWATER PROTECTION	BORING No.:	44 mw
PROJECT No.:	~~0030~~ 0255	DRILLER:	C. Bucher	DATE COMPLETED:	08/31/99
SITE:	GAS HILL	DRILLING METHOD:	DPT	NORTHING:	
GEOLOGIST:	M. DAVE	DEV. METHOD:	Peristaltic Pump	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser:	/ 2 IN.
Elevation / Height of Top of Surface Casing:	/ 9 FT.
I.D. of Surface Casing:	8 INch
Type of Surface Casing:	Steel Flush MT (Locking)
Type of Surface Seal:	Concrete PAD 2'×2'×6"
I.D. of Riser:	0.5 IN.
Type of Riser:	Sch. 80 PVC
Borehole Diameter:	2 1/8 Inch
Elevation / Depth Top of Rock:	N/A
Type of Backfill:	Portand Cement Type I
Elevation / Depth of Seal:	/ 10.5 FT
Type of Seal:	30/65 Silica sand
Elevation / Depth of Top of Filter Pack:	/ 12.5 FT
Elevation / Depth of Top of Screen:	/ 15.5 FT
Type of Screen:	Sch. 80 PVC
Slot Size x Length:	0.010 IN. X 9 FT.
I.D. of Screen:	0.5 IN.
Type of Filter Pack:	~~20~~/30 Silica Sand
Elevation / Depth of Bottom of Screen:	/ 24.5 FT
Elevation / Depth of Bottom of Filter Pack:	/ 24.5 FT
Type of Backfill Below Well:	NATIVE SOIL
Elevation / Total Depth of Borehole:	/ 24.5 FT

Tetra Tech NUS, Inc.

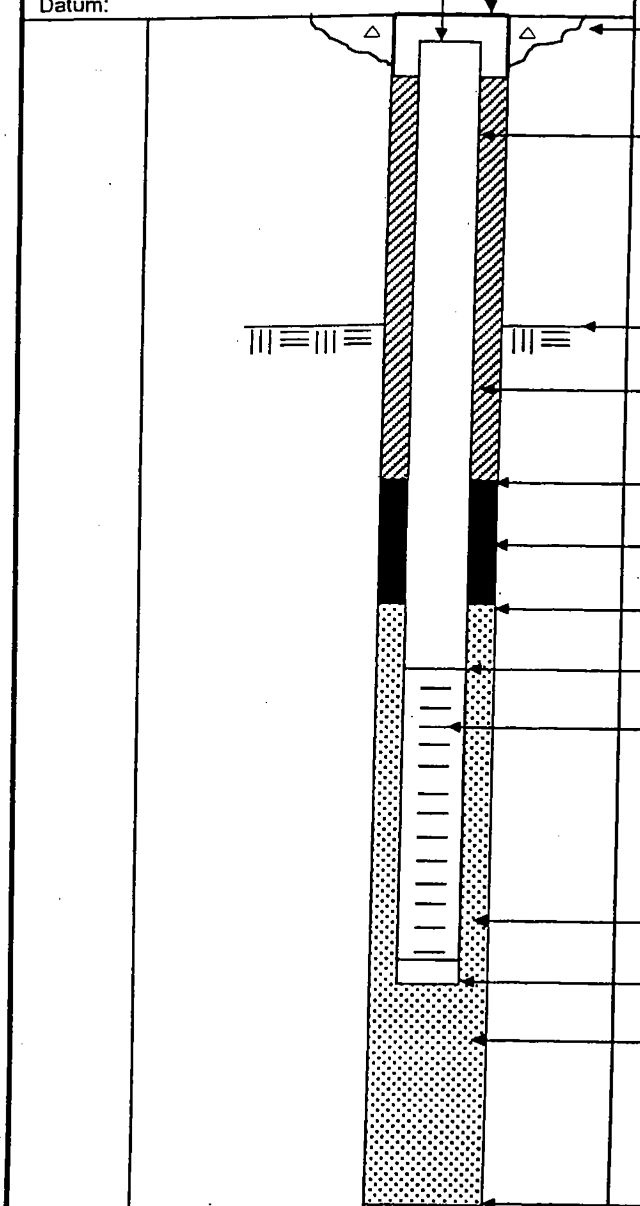
WELL No.: NASJ-159-GH-36

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JAX	DRILLING Co.:	GROUNDWATER PROTECTION	BORING No.:	5
PROJECT No.:	~~0030~~ 0255	DRILLER:	C. BUCHTER	DATE COMPLETED:	08/31/99
SITE:	GAS HILL	DRILLING METHOD:	DPT	NORTHING:	
GEOLOGIST:	M. DAVE	DEV. METHOD:	Peristaltic Pump	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2 IN.

Elevation / Height of Top of Surface Casing: / 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel flush MT. (Locking)

Type of Surface Seal: concrete pad 2'x2'x6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch 80 PVC

Borehole Diameter: 2.125 IN.

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: / 10.5 FT

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 13.5 FT

Elevation / Depth of Top of Screen: / 16.5 FT

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN. x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 25.5 FT

Elevation / Depth of Bottom of Filter Pack: / 25.5 FT

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 25.5 FT

Tetra Tech NUS, Inc.

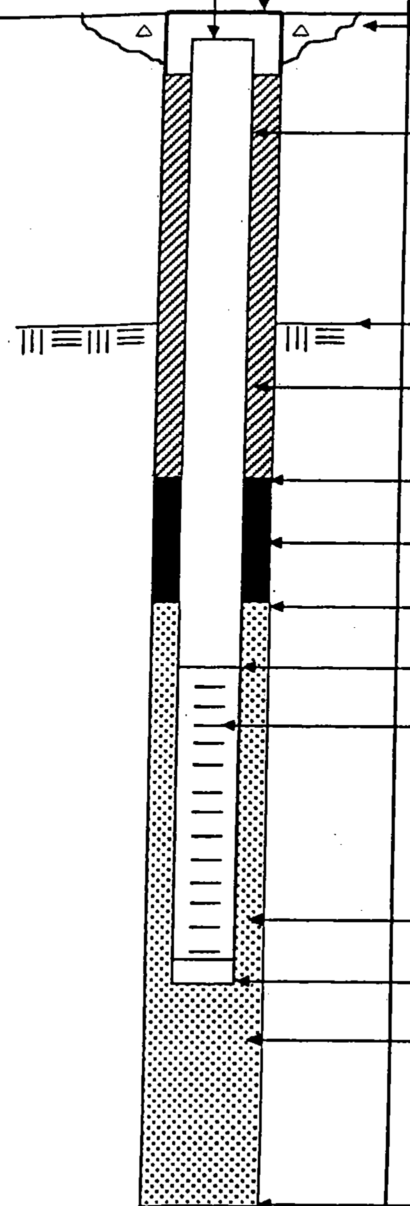
WELL No.: NAS J-159-GH-37

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JAX	DRILLING Co.:	GROUND WATER PROTECTION	BORING No.:	6
PROJECT No.:	~~0030~~ 0255	DRILLER:	C. Bucher	DATE COMPLETED:	08/31/99
SITE:	GAS HILL	DRILLING METHOD:	DPT	NORTHING:	
GEOLOGIST:	M. DAVE	DEV. METHOD:	Peristaltic	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2 IN.

Elevation / Height of Top of Surface Casing: / 8 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (locking)

Type of Surface Seal: concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: / 7 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 10 FT.

Elevation / Depth of Top of Screen: / 12 FT.

Type of Screen: Sch 80 PVC

Slot Size x Length: 0.010 IN. x 9 FT.

I.D. of Screen: 0.5 IN.

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 21 FT.

Elevation / Depth of Bottom of Filter Pack: / 21 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 21 FT.

Tetra Tech NUS, Inc.

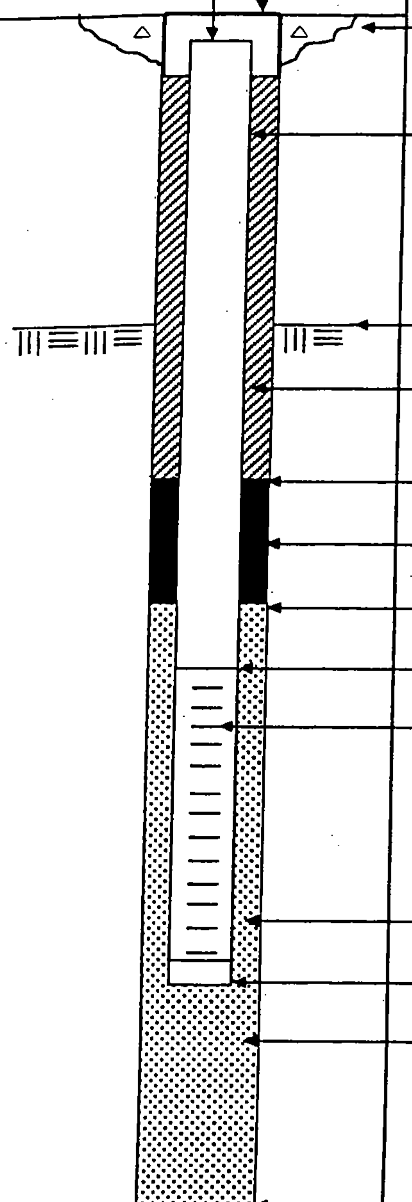
WELL No.: NASJ-159-GH-38

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JAX	DRILLING Co.:	GROUNDWATER PROTECTION	BORING No.:	7
PROJECT No.:	~~0030~~ 0255	DRILLER:	C. Bucher	DATE COMPLETED:	09/01/99
SITE:	GAS HILL	DRILLING METHOD:	DPT	NORTHING:	
GEOLOGIST:	M. DAVE	DEV. METHOD:	Peristaltic Pump	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2 IN.

Elevation / Height of Top of Surface Casing: / 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (Locking)

Type of Surface Seal: concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: / 9 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 11 FT.

Elevation / Depth of Top of Screen: / 13 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN. x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 22 FT.

Elevation / Depth of Bottom of Filter Pack: / 22 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 22 FT.

Tetra Tech NUS, Inc.

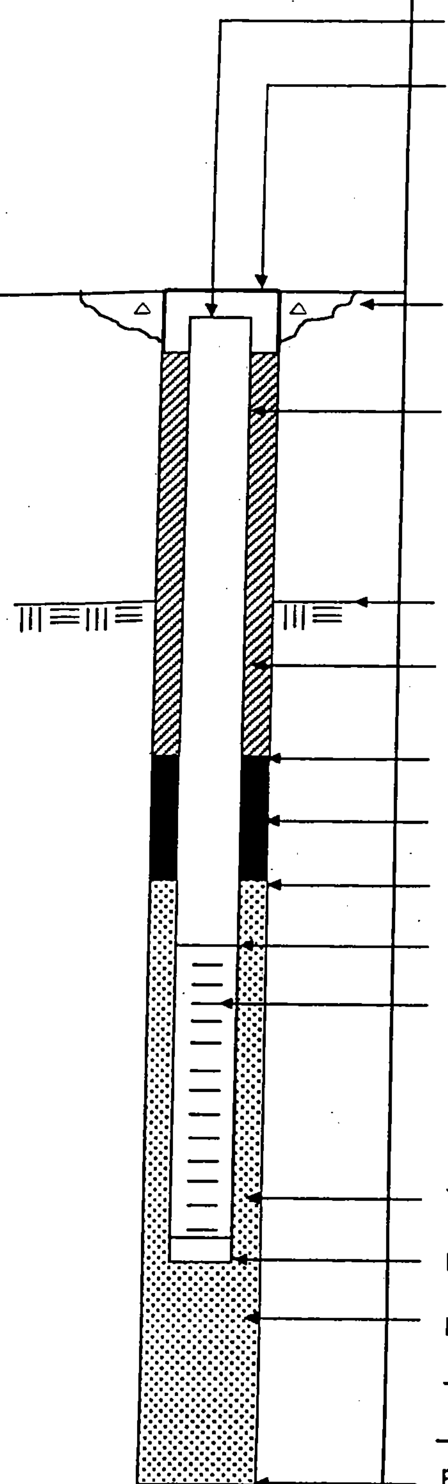
WELL No.: NASJ-159-GH-39

MONITORING WELL SHEET

PROJECT:	NAS ~~CECIL FIELD~~ JAX	DRILLING Co.:	GROUNDWATER PROTECTION	BORING No.:	8
PROJECT No.:	~~0030~~ 0255	DRILLER:	C. Bucher	DATE COMPLETED:	09/01/99
SITE:	GAS HILL	DRILLING METHOD:	DPT	NORTHING:	
GEOLOGIST:	M. DAVE	DEV. METHOD:	Peristaltic	EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2IN.

Elevation / Height of Top of Surface Casing: / 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT (locking)

Type of Surface Seal: Concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: / 10 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 12 FT.

Elevation / Depth of Top of Screen: / 14 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN. x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 23 FT.

Elevation / Depth of Bottom of Filter Pack: / 23 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 23 FT.

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CERTIFICATE OF CONFORMANCE

Well Designation: JAX-159-GH-28
Site Name: GAS HILL NAS JAX
Date Installed: 07/27/99 AND 07/~~28~~ 26/99 MD
Project Name: GAS HILL SITE ASSESSMENT

Site Geologist: MERVIN W. DALE
Drilling Company: PRECISION DRILLING
Driller: GREG PIJAK
Project Number: N0255

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing PRIMARY	PVC, Schedule 40, 2 IN. DIAM. (30 FT)	Atlantic Drilling, Palm Bch., FL	NO
Well Screen	PVC, Schedule 40, 2 IN DIAM., 10FT., 0.010 IN SLOTS,	same supplier	NO
End Cap	PVC, Sch. 40, well point, 1.5 IN.	SAME SUPPLIER	NO
Drilling Fluid	~~High yield~~ WATER	NAS JAX	NO
Drilling Fluid Additives	High yield bentonite powder	WYO-BEN, INC, BILLINGS, MT	NO
Backfill Material	None	—	—
Annular Filter Pack	20/30 Standard sand	Standard Sand & Silica Co., JAX, FL	NO
Bentonite Seal	ENVIROPLUG MEDIUM CHIPS	WYO-BEN, INC. BILLINGS, MT.	NO
Annular Grout	PORTLAND CEMENT TYPE I / HIGH YIELD BENTONITE	TARMAC, MEDLEY, FL / WYO-BEN, INC.	NO
Surface Cement	SAKRETE CONCRETE	W.R. BONSAL, CINN., OH.	NO
Protective Casing	Steel Cover 8 IN. I.D.	PEMCO	NO
Paint	None	—	—
Rod Lubricant	None	—	—
Compressor Oil	None	—	—
Secondary Casing	PVC, Sch. 40, 6 IN. DIAM., 15 FT.	Atlantic Drilling, Palm Bch., FL.	NO

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

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CERTIFICATE OF CONFORMANCE

Well Designation: JAX-159GH-29
Site Name: GAS HILL, NAS JAX
Date Installed: 07/27/99
Project Name: GAS HILL SITE ASSESSMENT

Site Geologist: MERVIN DALE
Drilling Company: PRECISION Drilling
Driller: Greg Pijak
Project Number: NO255.

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	PVC Schedule 40, 3 FT., 2 IN. DIAM.	Atlantic Drilling Palm Bch, FL	No
Well Screen	PVC Sch. 40, slot size 0.010" 10FT. 2IN. DIAM.	Same as above.	No
End Cap BOTTOM	PVC Sch. 40, well pt. 1.5"	Same	No
Drilling Fluid	~~None~~ water to charge well	NAS JAX	NO
Drilling Fluid Additives	None	—	—
Backfill Material	None	—	—
Annular Filter Pack	20/30 grade SAND	Standard Sand + Silica, JAX, FL	NO
Bentonite Seal	ENVIROPLUG MEDIUM (chips)	WYO BEN, INC. BILLINGS, MT	NO
Annular Grout	PORTLAND Cement Type I	TARMAC MEDLEY, FL	NO
Surface Cement	SAKRETE CONCRETE	W.R. BONSAL, CINN., OH.	NO
Protective Casing	Steel Cover 8 IN. I.D.	PEMCO	NO
Paint	None	—	—
Rod Lubricant	None	—	—
Compressor Oil	None	—	—

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

CERTIFICATE OF CONFORMANCE

Well Designation: JAX-GH-30
Site Name: GAS HILL, NAS JAX
Date Installed: 07/27/99
Project Name: GAS HILL SITE ASSESSMENT

Site Geologist: MERVIN DALE
Drilling Company: PRECISION DRILLING
Driller: Greg Pijak
Project Number: N0255

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	PVC Schedule 40, 3FT. 2 IN. DIAM.	Atlantic Drilling, Palm Bch., FL	NO
Well Screen	PVC Sch. 40, slot size 0.010 in. 2 IN. DIAM. (10 FT.)	↓	NO
End Cap	PVC Sch. 40, well point 1.5 in.	↓	NO
Drilling Fluid	water to charge well	NAS JAX	
Drilling Fluid Additives	none	—	
Backfill Material	none	—	—
Annular Filter Pack	20/30 grade sand	Standard Sand & Silica Co, JAX, FL	NO
Bentonite Seal	ENVIROPLUG MEDIUM (chips)	WYO-BEN, INC. Billings, MT	NO
Annular Grout	PORTLAND Cement Type I	TARMAC, MEDLEY, FL	NO
Surface Cement	SAKRete concrete	W.R. BONSAL, CINN., OH.	NO
Protective Casing	Steel Cover 8 IN. I.D.	PEMCO	NO
Paint	none	—	NO
Rod Lubricant	none	—	
Compressor Oil	NONE	—	

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin D. Dale

CERTIFICATE OF CONFORMANCE

Well Designation: JAX-159-GH-31
Site Name: GAS HILL, NAS JAX
Date Installed: 07/27/99
Project Name: GAS HILL SITE ASSESSMENT

Site Geologist: MERVIN DALE
Drilling Company: PRECISION DRILLING
Driller: Greg Pijak
Project Number: N0255

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	PVC Sch. 40, 3 FT., 2 IN. DIAM.	Atlantic Drilling, Palm Bch, FL	NO
Well Screen	PVC Sch. 40, slotsize 0.010 IN., 2 IN. DIAM., 10 FT.	SAME	NO
End Cap	PVC Sch. 40, well pt., 1.5 IN.	SAME	NO
Drilling Fluid	water to charge well	NASJAX	NO
Drilling Fluid Additives	none	—	—
Backfill Material	none	—	—
Annular Filter Pack	20/30 grade SAND	Std. Sand & Silica Co., JAX, FL	no
Bentonite Seal	ENVIROPLUG Medium (chips)	WYO-BEN, INC., Billings, MT	NO
Annular Grout	PORTLAND Cement Type I	TARMAC, MEDLEY, FL	NO
Surface Cement	SAKRETE CONCRETE	W.R. BONSAL CO., CINN., OH.	NO
Protective Casing	Steel COVER 8 IN. I.D.	PRMCO	NO
Paint	none	—	
Rod Lubricant	none	—	
Compressor Oil	none	—	

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

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CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-32
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/30/99
Project Name: SAR ADDENDUM

Site Geologist: MERVIN DALE / JASON McCANN
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: NQ255. FBQ. Q50. 225

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Sch. 80 PVC	Geoprobe Systems, 607 Barney St., SALINA, KS 67401	NO
Well Screen	Pre-Pack w/20/30 Sand, Sch. 80 PVC inner, Stainless Steel outer	Geoprobe Systems	NO
End Cap	Sch. 80 PVC (~2 in. long)	Geoprobe Systems	NO
Drilling Fluid	None		
Drilling Fluid Additives	none		
Backfill Material	none		
Annular Filter Pack	20/30 Silica Sand (pre-pack & 50 LB. Bags)	Geoprobe Sys. & Standard Sand	NO
~~Bentonite~~ Sand Seal	30/65 Silica Sand	Standard Sand JACKSONVILLE, FL	NO
Annular Grout	PORTLAND Cement Type I (94 LB. BAGS)	HOLNAM TAMPA, FL	NO
Surface Cement	QUIKRETE (80 LB BAGS)	QuikRete companies, Atlanta, GA	NO
Protective Casing	PEMCO 8 IN. DIAM LOCKING WELL COVER (FLUSH MT.)	PEMCO, HOLLYWOOD, FL	NO
Paint	NONE		
Rod Lubricant	none		
Compressor Oil	none		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin D. Dale Jason J. McCann

CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-33
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/30/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE / JASON McCANN
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: NQ255. FBQ. Q50. 225

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Sch. 80 PVC	Geoprobe Systems, 607 Barney St, SALINA, KS 67401	
Well Screen	Pre-Pack w/20/30 Sand Sch. 80 PVC INNER, Stainless Steel outer		NO
End Cap	Sch. 80 PVC (~2 in. long)	Geoprobe Systems	NO
Drilling Fluid	None	Geoprobe Systems	NO
Drilling Fluid Additives	none		
Backfill Material	None		
Annular Filter Pack	20/30 Silica Sand (pre-pack & 50LB. Bags)	Geoprobe Sys. & Standard Sand	
~~Bentonite~~ Sand Seal	30/65 Silica Sand	Standard Sand, JACKSONVILLE, FL	NO
Annular Grout	PORTLAND Cement Type I (94LB Bags)	HOLNAM, TAMPA, FL	NO
Surface Cement	QUIKRETE (80LB. BAGS)	QUIKRETE COS., Atlanta, GA	NO
Protective Casing	8 IN. DIAM. Locking Well Cover (Flush MT.)	PEMCO, Hollywood, FL	NO
Paint	NONE		NO
Rod Lubricant	none		
Compressor Oil	none		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin D. Dale Jason Q. McCann

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CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-34
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/30/99
Project Name: SAR Adderdum

Site Geologist: MERVIN DALE / JASON McCANN
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: NQ255. FBØ. Ø5Ø. 225

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Sch. 80 PVC	Geoprobe Systems, 607 Barney St., SALINA, KS 67401	
Well Screen	Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer	Geoprobe Systems	NO
End Cap	Sch. 80 PVC (~2 in. long)	Geoprobe Systems	NO
Drilling Fluid	None		NO
Drilling Fluid Additives	none		
Backfill Material	None		
Annular Filter Pack	20/30 Silica Sand (pre-pack & 50 LB. Bags)	Geoprobe Sys. & Standard Sand	NO
~~Bentonite~~ Seal, Sand	30/65 Silica Sand	Standard Sand, JACKSONVILLE, FL	NO
Annular Grout	PORTLAND Cement Type I (94 LB. Bags)	HOLNAM, TAMPA, FL	NO
Surface Cement	QUIKRete (80 LB. Bags)	Quikrete Companies, Atlanta, GA	NO
Protective Casing	8 in. DIAM Locking Cover (Flush mt.)	PAMCO Hollywood, FL	NO
Paint	None		
Rod Lubricant	none		
Compressor Oil	none		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale Jason J. McCann

CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-35
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/31/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: NQ255. FBQ. Q5Q. 225

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Sch. 80 PVC	Geoprobe Systems, 607 Barney St. SALINA, KS 67401	
Well Screen	Pre-Pack w/20/30 Sand Sch. 80PVC inner, Stainless Steel outer	Geoprobe Systems,	NO
End Cap	Sch. 80 PVC (~2 in. long)	Geoprobe Systems	NO
Drilling Fluid	None		NO
Drilling Fluid Additives	none		
Backfill Material	None		
Annular Filter Pack	20/30 Silica Sand (pre-pack & 50LB. Bags)	Geoprobe Sys. & Standard Sand	
~~Bentonite Seal~~ Sand	30/65 Silica Sand	Standard Sand JACKSONVILLE, FL	NO
Annular Grout	Portland Cement Type I (94LB. Bags)	HOLNAM TAMPA, FL	NO
Surface Cement	QuiKrete, (80 LB. Bags)	QuiKrete Comp's. Atlanta, GA	NO
Protective Casing	8 IN DIAM Steel Locking Cover (Flush)	PEMCO Hollywood, FL.	NO
Paint	None		NO
Rod Lubricant	none		
Compressor Oil	none		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-36
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/31/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: NQ255.FB0.Q50.225

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Sch. 80 PVC	Geoprobe Systems, 607 Barney St. SALINA, KS 67401	
Well Screen	Pre-Pack w/20/30 Sand, Sch. 80 PVC INNER, Stainless Steel outer	Geoprobe Systems	NO
End Cap	Sch. 80 PVC (~2 IN. long)	Geoprobe Systems	NO
Drilling Fluid	None		NO
Drilling Fluid Additives	none		
Backfill Material	None		
Annular Filter Pack	20/30 Silica Sand (pre-PACK & 50 LB. Bags)	Geoprobe Sys. & Standard Sand	
~~Bentonite~~ Seal, Sand	30/65 Silica Sand	Standard Sand, JACKSONVILLE, FL	NO
Annular Grout	PORTLAND Cement Type I (94 LB. Bags)	HOLNAM, TAMPA, FL	NO
Surface Cement	QUIKrete (80 LB. Bags)	QUIKrete Companies Atlanta, GA	NO
Protective Casing	8 in. DIAM. Steel Flush MT. Locking Cover	PEMCO Hollywood, FL	NO
Paint	NONE		NO
Rod Lubricant	none		
Compressor Oil	none		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin D. Dale

CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-37
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/31/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: GROUNDWATER PROTECTION
Driller: Charles Bucher
Project Number: NQ255. FBØ. Q5Ø. 225

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Sch. 80 PVC	Geoprobe Systems, 607 Barney St. SALINA, KS 67401	
Well Screen	Pre-PACK w/20/30 SAND Sch. 80PVC INNER, Stainless Steel outer		NO
End Cap	Sch. 80 PVC (~2 in. long)	Geoprobe Systems	NO
Drilling Fluid	None	Geoprobe Systems	NO
Drilling Fluid Additives	none		
Backfill Material	None		
Annular Filter Pack	20/30 Silica Sand (pre-PACK + 50LB. BAgs)	Geoprobe Sys. + Standard SAND	NO
~~Bentonite Seal~~, Sand	30/65 Silica Sand	Standard SAND, JACKSONVILLE, FL	NO
Annular Grout	PORTLAND Cement Type I (94LB. Bags)	HOLNAM TAMPA, FL	NO
Surface Cement	QUIKRETE (80 LB. BAGS)	QUIKRETE companies, AtlANTA, GA	NO
Protective Casing	8 IN. DIAM Steel Flush MT. Locking Cover	PEMCO Hollywood, FL	NO
Paint	NONE		
Rod Lubricant	none		
Compressor Oil	none		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-38
Site Name: GAS HILL, NAS JACKSONVILLE
Date Installed: 09/01/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: NQ255. FBØ. QSØ. 225

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Sch. 80 PVC	Geoprobe Systems, 607 Barney St. SALINA, KS 67401	NO
Well Screen	Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer	Geoprobe Systems	NO
End Cap	Sch. 80 PVC (~2 in. long)	Geoprobe Systems	NO
Drilling Fluid	None		
Drilling Fluid Additives	none		
Backfill Material	None		
Annular Filter Pack	20/30 Silica Sand (pre-pack & 50 LB. Bags)	Geoprobe Sys. & Standard Sand	NO
~~Bentonite Seal~~, Sand	30/65 Silica Sand	Standard Sand, JACKSONVILLE, FL	NO
Annular Grout	PORTLAND Cement Type I (94 LB. Bags)	HOLNAM TAMPA, FL	NO
Surface Cement	QUIKrete (80 LB. Bags)	QUIKrete companies (Atlanta, GA	NO
Protective Casing	8 IN. DIAM. Steel Flush MT. Locking Cover	PEMCO Hollywood, FL	NO
Paint	NONE		
Rod Lubricant	none		
Compressor Oil	none		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

Rev. 0
March 27, 1997

CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-39
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 09/01/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: NQ255. FBØ. Ø5Ø. 225

Material	Brand/Description	Source/Supplier	Sample Collected ?
Well Casing	Sch. 80 PVC	Geoprobe Systems, 607 Barney St. SALINA, KS 67401	NO
Well Screen	Pre-Pack w/20/30 Sand Sch. 80PVC inner, Stainless Steel outer	Geoprobe Systems	NO
End Cap	Sch. 80 PVC (~2 in. long)	Geoprobe Systems	NO
Drilling Fluid	none		
Drilling Fluid Additives	none		
Backfill Material	none		
Annular Filter Pack	20/30 Silica Sand (pre-pack & 50LB. Bags)	Geoprobe Sys. & Standard Sand	NO
~~Bentonite Seal~~ Sand	30/65 Silica Sand	Standard Sand JACKSONVILLE, FL	NO
Annular Grout	PORTLAND Cement Type I (94 LB. bags)	HOLNAM TAMPA, FL	NO
Surface Cement	Quikrete (80 LB. BAGS)	Quikrete companies Atlanta, GA	NO
Protective Casing	8 in. DIAM. Steel Flush MT. Locking Cover	PEMCO Hollywood, FL	NO
Paint	NONE		
Rod Lubricant	none		
Compressor Oil	none		

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

APPENDIX F

GROUNDWATER SAMPLE LOG SHEETS

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-01-01
Project No.:	N0255	Sample Location:	JAX-159-GH-01
		Sampler:	Eric Parker

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 073099								
Time: 1220								
Method: Peristaltic	Cldy	5.81	0.243	27.0	289	2.09		

PURGE DATA

Date: 073099	
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 14.22	
Static Water Level (ft): 6.93	
One Casing Volume(gal/L): 4.5	
Start Purge (hrs): ~~1055~~ 1110	
End Purge (hrs): 1215	
Total Purge Time (min): 65	
Total Vol. Purged (gal/L): 14.3L	

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

Put tubing to 9 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-02-01
Project No.:	N0255	Sample Location:	JAX-159-GH-2
		Sampler:	M. DALE

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 080299	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Time: 1235								
Method: Peristaltic	clear	5.30	0.227	25.9	2	0.81		

PURGE DATA

Date: 080299	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 14.02	
Static Water Level (ft): 6.97	~~6.79~~
One Casing Volume(gal/L): 4.3	
Start Purge (hrs): 1052	
End Purge (hrs): 1233	
Total Purge Time (min): 101	
Total Vol. Purged (gal/L): 12.9	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

SET TUBING TO 12 FT. BTOC

14.02
-6.97
7.05

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Marvin W. Dale

Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH- 03 - 01
Project No.:	N0255	Sample Location:	JAX-159-GH- 3
		Sampler:	E. PARKER

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 8/2/99 Time: 1020								
Method: Peristaltic	clear	6.52	0.643	26.8	0	1.17		

PURGE DATA

Date: 080299	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch Well Casing Material: PVC	
Total Well Depth (ft): 14.27	
Static Water Level (ft): 6.77 ~~6.36~~	
One Casing Volume(gal/L): 4.9	
Start Purge (hrs): 0905	
End Purge (hrs): 1015	
Total Purge Time (min): 70	
Total Vol. Purged (gal/L): 15.5L	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	Yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

SET TUBING TO 12 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-04-01
Project No.:	N0255	Sample Location:	JAX-159-GH-4

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Eric Parker

SAMPLING DATA

Date: 8/3	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Time: 1340								
Method: Peristaltic	clear	6.23	0.405	26.8	10	1.81		

PURGE DATA

Date: 8/3	
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 10.67	
Static Water Level (ft): 3.00 ~~3.58~~	
One Casing Volume(gal/L): 4.6	
Start Purge (hrs): 1225	
End Purge (hrs): ~~1390~~ 1330	
Total Purge Time (min): ~~75~~ 65	
Total Vol. Purged (gal/L): 14.0 L	

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	yes
Lead	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

SET TUBING TO 10 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-05-01
Sample Location: JAX-159-GH-5

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. Dale

SAMPLING DATA

Date: 080399	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Time: 1047								
Method: Peristaltic	cldy	5.81	2.41	25.3	6	0.93		

PURGE DATA

Date: 080399	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 10.25	
Static Water Level (ft): 5.03	
One Casing Volume(gal/L): 3.1	
Start Purge (hrs): 0940	
End Purge (hrs): 1045	
Total Purge Time (min): 65	
Total Vol. Purged (gal/L): 10.8	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409 m
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [✓] DUPLICATE / ID No.: NASJ-159-GA-DUP3-01

Signature(s): Marvin W. Dale

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-06-01
Project No.:	N0255	Sample Location:	JAX-159-GH-6
		Sampler:	M. Dale

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 080399								
Time: 1455								
Method: Peristaltic	clear							

PURGE DATA

Date: 080399	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 11.74	
Static Water Level (ft): 4.74	4.91
One Casing Volume(gal/L): 4.3	
Start Purge (hrs): 1242	
End Purge (hrs): 1453	
Total Purge Time (min): 131	
Total Vol. Purged (gal/L): 13.1	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

SET TUBING TO 11 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Marvin W. Dale

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH- 07-01
Project No.:	N0255	Sample Location:	JAX-159-GH- 7
		Sampler:	Eric Parker

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 080399	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Time: 1035								
Method: Peristaltic	clear	6.71	0.776	25.1	10	0.67		

PURGE DATA

Date: 080399	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 10	
Static Water Level (ft): 2.74	
One Casing Volume(gal/L): 4.4	
Start Purge (hrs): 0920	
End Purge (hrs): 1025	
Total Purge Time (min): 65	
Total Vol. Purged (gal/L): 14.0L	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	yes
Lead	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

set tubing to 8-9 FT. BTOC.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-08-01
Project No.:	N0255	Sample Location:	JAX-159-GH-8
		Sampler:	E. PARKER

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 080399	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Time: 1605								
Method: Peristaltic	clear	6.40	0.558	26.1	8	2.89		

PURGE DATA

Date: 080399	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 16.92	
Static Water Level (ft): 7.75 ~~8.01~~ WD	
One Casing Volume(gal/L): 5.5	
Start Purge (hrs): 1435	
End Purge (hrs): 1555	
Total Purge Time (min): 80	
Total Vol. Purged (gal/L): 17.0L	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	yes
Lead	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

SET TUBING TO 14 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409 WD
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-09-01
Project No.:	N0255	Sample Location:	JAX-159-GH-9

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Mervin Dale

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 080299								
Time: 0958								
Method: Peristaltic	clear	6.37	0.570	25.0	-10	1.82		

PURGE DATA

Date: 080299	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 14.28	
Static Water Level (ft): 6.81	~~6.41~~ MD
One Casing Volume(gal/L): 4.6	
Start Purge (hrs): 0905	
End Purge (hrs): 0955	
Total Purge Time (min): 50	
Total Vol. Purged (gal/L): 14.5	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

SET TUBING TO 12 FT. BTOC

14.28
-6.81
7.47

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Mervin W. Dale

Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-10-01
Project No.:	N0255	Sample Location:	JAX-159-GH-10
		Sampler:	M. DALE

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 082299								
Time: 1728								
Method: Peristaltic	clear	6.20	0.795	25.5	-10	2.27		

PURGE DATA

Date: 082299	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 14.36	
Static Water Level (ft): 7.34	~~7.34~~ MO
One Casing Volume(gal/L):	
Start Purge (hrs): 1626	
End Purge (hrs): 1725	
Total Purge Time (min): 59	
Total Vol. Purged (gal/L): 13	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

SET TUBING TO 12 FT. BTOC
Well ran dry during sample of dups. Tossed them. Keep samples. Let recover for Lead & SVOA's.

14.36
7.34
7.02

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [X] DUPLICATE NO ID No.: ~~NASJ-159-GH-DUP2-01~~
GW et E.P. or well GH17.

Signature(s): Mervin W. Dale

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-12-01
Project No.:	N0255	Sample Location:	JAX-159-GH-12
[X] Monitoring Well		Sampler:	E. PARKER
[ ] Domestic Well			
[ ] Other:			

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 073099								
Time: 1712								
Method: Peristaltic	clear	6.83	0.494	24.5	10	1.98		

PURGE DATA

Date: 073099	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 33.70	
5 FT screen Static Water Level (ft): 4.10	
One ~~Casing~~ Screen Volume(gal/L): 3.1	
Start Purge (hrs): 1625	
End Purge (hrs): 1705	
Total Purge Time (min): 40	
Total Vol. Purged (gal/L): 10.5 L	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	Yes
SVOCs	None	1-1Liter glass ambers	ENCO	✓
Lead	HNO3	1-250ml plastic	ENCO	✓

OBSERVATIONS / NOTES

Put tubing to 28 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~0399~~ 03944
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-13-01
Project No.:	N0255	Sample Location:	JAX-159-GH-13
		Sampler:	Eric Parker

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 8/2 / Time: 1555 / Method: Peristaltic	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
	clear	6.30	0.595	25.8	31	1.48		

PURGE DATA

Date: 8/2	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 15.30	
Static Water Level (ft): 6.75	~~6.43~~
One Casing Volume(gal/L): 5.6	
Start Purge (hrs): 1425	
End Purge (hrs): 1545	
Total Purge Time (min): 80	
Total Vol. Purged (gal/L): 17.0L	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	yes
Lead	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

SET TUBING TO 13 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-14-01
Project No.:	N0255	Sample Location:	JAX-159-GH-14
		Sampler:	M. DALE

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 073099	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Time: 1024								
Method: Peristaltic	clear	6.08	0.309	26.4	6	1.43		

PURGE DATA

Date: 073099	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 14.91	
Static Water Level (ft): 6.16	
One Casing Volume(gal/L): 5.3	
Start Purge (hrs): 0855	
End Purge (hrs): 1021	
Total Purge Time (min): 86	
Total Vol. Purged (gal/L): 17.9	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

set tubing to 9 FT. BTOC.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Marvin W. Dale

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-15-01
Project No.:	N0255	Sample Location:	JAX-159-GH-15
		Sampler:	E. PARKER

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 073099								
Time: 1505								
Method: Peristaltic	clear	5.53	0.189	25.5	6	0.93		

PURGE DATA

Date: 073099	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 14.50	
Static Water Level (ft): 5.98	
One Casing Volume(gal/L): 5.2	
Start Purge (hrs): 1340	
End Purge (hrs): 1500	
Total Purge Time (min): 80	
Total Vol. Purged (gal/L): 15.6 L	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	
Lead	HNO3	1-250ml plastic	ENCO	

OBSERVATIONS / NOTES

Tubing is 9.5ft down well

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s):

Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-16-01
Project No.:	N0255	Sample Location:	JAX-159-GH-16

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Eric Parker

SAMPLING DATA

Date: 8/2/99	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Time: 1205								
Method: Peristaltic	clear	6.26	0.777	25.4	0	1.19		

PURGE DATA

Date: 8/2	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 14.60	
Static Water Level (ft): 5.78	~~5.72~~
One Casing Volume(gal/L): 5.6	
Start Purge (hrs): 1045	
End Purge (hrs): 1155	
Total Purge Time (min): 70	
Total Vol. Purged (gal/L): 17.0 L	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	
Lead	HNO3	1-250ml plastic	ENCO	

OBSERVATIONS / NOTES

SET TUBING TO 12 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-17-01
Project No.:	N0255	Sample Location:	JAX-159-GH-17
		Sampler:	Eric Pal

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 8/2								
Time: 1740								
Method: Peristaltic	clear	6.99	0.570	27.5	0	1.53		

PURGE DATA

Date: 8/2	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 14.86	
Static Water Level (ft): ~~6.79~~ 6.34	
One Casing Volume(gal/L): 5.1	
Start Purge (hrs): 1615	
End Purge (hrs): 1730	
Total Purge Time (min): 75	
Total Vol. Purged (gal/L): 16.04	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	yes
Lead	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

SET TUBING TO 12 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [X] DUPLICATE / ID No.: NASJ-159-GH-DUP4-01

Signature(s): Eric Pal

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-19-01
Sample Location: JAX-159-GH-19

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. Dale

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 082299								
Time: 1540								
Method: Peristaltic	Lt. Yellow	5.66	0.297	26.3	~10	1.24		

PURGE DATA

Date:	082299
Method:	Peristaltic
Monitor Reading (ppm):	N/A
Well Casing Diameter:	2 inch
Well Casing Material:	PVC
Total Well Depth (ft):	10.91
Static Water Level (ft):	3.23 ~~3.06~~
One Casing Volume(gal/L):	4.6
Start Purge (hrs):	1438
End Purge (hrs):	1537
Total Purge Time (min):	59
Total Vol. Purged (gal/L):	13.8

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

SET TUBING TO 10 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Melvin W. Dale

Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-20-01
Project No.:	N0255	Sample Location:	JAX-159-GH-20

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. DALE

SAMPLING DATA

Date: 082399	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Time: 1623								
Method: Peristaltic	clear	6.01	0.437	24.0	~1	2.00		

PURGE DATA

Date: 082399	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 35.95	
Static Water Level (ft): 2.91	3.05
One ~~Casing~~ Screen Volume(gal/L): 3.1	
Start Purge (hrs): 1527	
End Purge (hrs): 1602	
Total Purge Time (min): 35	
Total Vol. Purged (gal/L): 9.6	

5 FT. screen

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

SET TUBING TO 30 FT. BTOC.
Purge on 5 FT. screen volume.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409
LAB:
COC #:

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Mervin D. Dale

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-21-01
Project No.:	N0255	Sample Location:	JAX-159-GH-21
		Sampler:	M. DALE

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 073099								
Time: 1148								
Method: Peristaltic	clear	6.85	0.776	25.9	25	1.11		

PURGE DATA

Date: 073099	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 39.18	
Static Water Level (ft): 6.60	
5FT. ~~One Casing~~ Screen Volume(gal/L): 3.1	
Start Purge (hrs): 1051	
End Purge (hrs): 1145	
Total Purge Time (min): 54	
Total Vol. Purged (gal/L): 9.7	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	
Lead	HNO3	1-250ml plastic	ENCO	

OBSERVATIONS / NOTES

Put tubing to 36.5 FT. BTOC.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Marvin W. Dale

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-22-01
Project No.:	N0255	Sample Location:	JAX-159-GH-22
		Sampler:	M. Dale

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 073099								
Time: 1543								
Method: Peristaltic	clear	6.17	0.632	25.8	14	0.89		

PURGE DATA

Date: 073099	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 19.10	
Static Water Level (ft): 7.13	
One Casing Volume(gal/L): 7.4	
Start Purge (hrs): 1344	
End Purge (hrs): 1535	
Total Purge Time (min): 111	
Total Vol. Purged (gal/L): 22.2	

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

set tubing to ~~15~~ 14 ft. btoc.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Marvin W. Dale

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: NO255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-23-01
Sample Location: JAX-159-GH-23
Sampled By: E. PARKER
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

		Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO (mg/L) Meter	DO (mg/L) Titration	CO_2	H_2S	Fe +2
Date:	07/29/99										
Time:	1750										
Method:	Peristaltic	Clear	6.17	0.474	24.7	-10	1.45	N/A	—	—	—

PURGE DATA

		Volume	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity			
Date:	07/29/99										
Method:	Peristaltic	Initial									
Monitor Reading (ppm):	N/A	1									
Well Casing Diameter:	2 in.	2									
Well Casing Material:	PVC	3									
Total Well Depth (TD):	32.45				See Low Flow Purge Sheet						
Static Water Level (WL):	5.29										
One ~~Casing~~ Screen Volume(gal/L):	~~6.2~~ 3.1										
Start Purge (hrs):	1655										
End Purge (hrs):	1740										
Total Purge Time (min):	75										
Total Vol. Purged (gal/L):	10 L										

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
8021B	HCl	2 - 40 ML VIALS	yes
8310	none	1 - 1 Liter Amber	yes
Pb 6010B	HNO_3	1 - 250 ML HDPE	yes

OBSERVATIONS / NOTES

set tubing to 30 FT. BTOC

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
	NONE	Eric Parker

Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site:	NAS Jacksonville - Gas Hill	Sample ID No.:	NASJ-159-GH-24-01
Project No.:	N0255	Sample Location:	JAX-159-GH-24

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L		
Date: 073099								
Time: ~~1110~~ 1010								
Method: Peristaltic	clear	5.79	0.456	25.5	15	1.29		

PURGE DATA

Date: 073099	
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 2 inch	
Well Casing Material: PVC	
Total Well Depth (ft): 15.03	
Static Water Level (ft): ~~5.70~~	5.65 MD
One Casing Volume(gal/L): 5.6	
Start Purge (hrs): 0850	
End Purge (hrs): ~~1105~~ ~~1005~~	1005
Total Purge Time (min): 75	
Total Vol. Purged (gal/L): 17L	

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Laboratory	Collected
VOCs	HCl	2-40ml vials	ENCO	yes
SVOCs	None	1-1Liter glass ambers	ENCO	↓
Lead	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

SET TUBING TO 8 FT. BTOC

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	GAS HILL	Sample ID No.:	NASJ-159-GH-25-01
Project No.:	N0255	Sample Location:	JAX-159-GH-25
[ ] Domestic Well Data		Sampled By:	M. DAVIS
[X] Monitoring Well Data		C.O.C. No.:	03943
[ ] Other Well Type:		Type of Sample:	
[ ] QA Sample Type:		[X] Low Concentration	
		[ ] High Concentration	

SAMPLING DATA

Date: 072999	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO (mg/L) Meter	DO (mg/L) Titration	CO_2	H_2S	Fe +2
Time: 1804										
Method: Peristaltic	clear	6.51	0.650	24.1	~10	1.65	N/A	—	—	—

PURGE DATA

	Volume	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity		
Date: 072999									
Method: Peristaltic	Initial								
Monitor Reading (ppm): N/A	1								
Well Casing Diameter: 2 IN.	2								
Well Casing Material: PVC	3								
Total Well Depth (TD): 39.98									
Static Water Level (WL): 2.40									
One ~~Casing~~ Screen Volume(gal/L): 3.1									
Start Purge (hrs): 1704									
End Purge (hrs): 1800									
Total Purge Time (min): 56									
Total Vol. Purged (gal/L): 11.7									

See Low Flow Purge Sheet

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
8021B	HCl	2- 40 ML VIALS	yes
8310	none	1- 1 Liter Amber	yes
Pb, 6010 B	HNO_3	1- 250 ML HDPE	yes

OBSERVATIONS / NOTES

Set tubing to ± 37.5 FT. BTOC

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.: None	Melvin W. Dale

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL NASJAX
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-26-01
Sample Location: JAX-159-GH-26
Sampled By: M. DALE
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 072999	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO (mg/L) Meter	DO (mg/L) Titration	CO_2	H_2S	Fe +2
Time: 1615										
Method: Peristaltic	Lt. Yellow	6.17	0.629	26.5	-10	1.45	N/A	—	—	—

PURGE DATA

Date: 072999	Volume	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity			
Method: Peristaltic	Initial									
Monitor Reading (ppm): N/A	1									
Well Casing Diameter: 2 IN	2									
Well Casing Material: PVC	3									
Total Well Depth (TD): 11.81										
Static Water Level (WL): 2.53			See Low Flow Purge Sheet							
One Casing Volume(gal/L): 5.7										
Start Purge (hrs): 1519										
End Purge (hrs): 1613										
Total Purge Time (min): 53										
Total Vol. Purged (gal/L): 18.6										

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
8021B	HCl	2 - 40ML VIALS	yes
8310	None	1 - 1 Liter Amber	yes
Pb 6010B	No/HNO3	1 - 250ML HDPE	yes

OBSERVATIONS / NOTES

set tubing to 8 FT. BTOC

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
N/A	NASJ-159-GH-DUP1-01	Mervin J. Dale

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL NASJAX
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-27-01
Sample Location: JAX-159-GH-27
Sampled By: E. PARKER
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO (mg/L) Meter	DO (mg/L) Titration	CO_2	H_2S	Fe +2
Date: 07/29/99										
Time:										
Method: Peristaltic	clear	6.39	0.647	24.5	-10	1.56	N/A	—	—	—

PURGE DATA

	Volume	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity			
Date: 07/29/99										
Method: peristaltic	Initial									
Monitor Reading (ppm): N/A	1									
Well Casing Diameter: 2 IN.	2									
Well Casing Material: PVC	3									
Total Well Depth (TD): 34.88			See Low Flow Purge Sheet							
Static Water Level (WL): 2.58										
One ~~Casing~~ screen Volume(gal/L): 3.1										
Start Purge (hrs): 1515										
End Purge (hrs): 1600										
Total Purge Time (min): 45 min										
Total Vol. Purged (gal/L): 10										

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
8021B	HCl	2 - 40 ML VIALS	yes
8310	none	1 - 1 Liter Amber	yes
Pb, 6010B	HNO_3	1 - 250 ML HDPE	yes

OBSERVATIONS / NOTES

set tubing at 32 FT. BTOC.

Circle if Applicable:

MS/MSD

Duplicate ID No.: None

Signature(s): Eric Parker

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-28-01
Sample Location: JAX-159-GH-28
Sampled By: M. DALE
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 07/29/99 Time: 1108 Method: Peristaltic	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO (mg/L) Meter	DO (mg/L) Titration	CO_2	H_2S	Fe +2
	clear	6.74	0.519	25.8	-10	1.96	N/A	—	—	—

PURGE DATA

Date: 07/29/99	Volume	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity			
Method: Peristaltic	Initial									
Monitor Reading (ppm): N/A	1									
Well Casing Diameter: 2 IN.	2									
Well Casing Material: PVC	3									
Total Well Depth (TD): 34.20			See low flow purge sheet							
Static Water Level (WL): 2.60										
One ~~Casing~~ Screen Volume(gal/L): 3.1										
Start Purge (hrs): 1016										
End Purge (hrs): 1103										
Total Purge Time (min): 47										
Total Vol. Purged (gal/L): 11.2										

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
8021B	HCL	2 - 40 ML VIALS	yes
8310	None	1 - 1 Liter Amber	yes
Lead 6010B	HNO_3	1 - 250 ML HDPE	yes

OBSERVATIONS / NOTES

Screen = 5 feet; set tubing at 33 FT. BTOC.

Circle if Applicable:

MS/MSD

Duplicate ID No.: None

Signature(s): Merrim W. Dale

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NAST-159-GH-29-01
Sample Location: JAX-159-GH-29
Sampled By:
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 07/29/99 Time: 1429 Method: Peristaltic	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO (mg/L) Meter	DO (mg/L) Titration	CO_2	H_2S	Fe +2
	clear	6.03	0.413	25.8	272	1.29	N/A	—	—	—

PURGE DATA

Date: 07/29/99	Volume	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity			
Method: Peristaltic	Initial									
Monitor Reading (ppm): N/A	1									
Well Casing Diameter: 2 IN.	2									
Well Casing Material: PVC	3									
Total Well Depth (TD): 13.10										
Static Water Level (WL): 3.12			SEE low Flow Purge Sheet							
One Casing Volume(gal/L): 6.2										
Start Purge (hrs): 1322										
End Purge (hrs): 1425										
Total Purge Time (min): 63										
Total Vol. Purged (gal/L): 26.25										

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
8021B	HCl	2- 40 ML VIALS	yes
E310	None	1- 1 Liter Amber	yes
Pb 6010B	HNO_3	1- 250 ML HDPE	yes

OBSERVATIONS / NOTES

Set tubing at 8 FT. BTOC.

Circle if Applicable:

MS/MSD	Duplicate ID No.: None	Signature(s):

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-30-01
Sample Location: JAX-159-GH-30
Sampled By: E. PARKER
C.O.C. No.: Q3943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 07/29/99 / Time: 1425 / Method:	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO (mg/L) Meter	DO (mg/L) Titration	CO_2	H_2S	Fe +2
Peristaltic	clear	6.01	0.440	26.4	-10	2.72	N/A	—	—	—

PURGE DATA

	Volume	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity			
Date: 07/29/99										
Method: Peristaltic	Initial									
Monitor Reading (ppm): N/A	1									
Well Casing Diameter: 2 IN.	2									
Well Casing Material: PVC	3									
Total Well Depth (TD): 13.55										
Static Water Level (WL): 2.50			See Low Flow Purge Sheet							
One Casing Volume(gal/L): 6.8										
Start Purge (hrs): 1315										
End Purge (hrs): 1420										
Total Purge Time (min): 1hr 5min										
Total Vol. Purged (gal/L): 23 L										

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
8021B	HCl	2- 40 ML Vials	yes
8310	none	1- 1 Liter amber	yes
Pb, 6010B	HNO_3	1-250 ML HDPE	yes

OBSERVATIONS / NOTES

set tubing to 8 FT. BTOC

Circle if Applicable:

MS/MSD

Duplicate ID No.: None

Signature(s): Eric Parker

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL NASJAX
Project No.: NO255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-31-01
Sample Location: JAX-159-GH-31
Sampled By: E. PARKER
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 07/29/99	Color	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO (mg/L) Meter	DO (mg/L) Titration	CO_2	H_2S	Fe +2
Time: ~~1015~~ 1137 MD										
Method: Peristaltic	clear	6.46	.435	27.6	-10	3.14	N/A	—	—	—

PURGE DATA

Date: 07/29/99	Volume	pH	S.C.	Temp (°C)	Turbidity	DO	Salinity			
Method: Peristaltic	Initial									
Monitor Reading (ppm): N/A	1									
Well Casing Diameter: 2 IN.	2									
Well Casing Material: PVC	3									
Total Well Depth (TD): 12.45			See Low Flow purge sheet							
Static Water Level (WL): 2.84										
One Casing Volume(gal/L): 5.9										
Start Purge (hrs): 1015										
End Purge (hrs): 1135										
Total Purge Time (min): 1hr 20min = 80MIN										
Total Vol. Purged (gal/L): 18,000 mL = 18L										

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
(VOAs) 8021B	HCl	2 - 40mL VIALS	yes
(SVOAs) 8310	None	1 - 1 Liter Amber	yes
(Lead) 6010B	HNO_3	1 - 250 mL plastic	yes

OBSERVATIONS / NOTES

Set tubing at 8 FT. BTOC.

Circle if Applicable:

MS/MSD

Duplicate ID No.: None

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - GAS HILL	Sample ID No.:	NASJ-159-GH-32-02
Project No.:	N0255.FB0.050.230	Sample Location:	GH-32
		Sampler:	E. PARKER

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 9/2/1999	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	
Time: 1755		S.U.	mS/cm	°C	NTU	mg/L	ppt	
Method: Peristaltic	Cloudy	6.31	.375	26.0	280	0.35	—	

PURGE DATA

Date: 9/2/1999	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 0.5 in.	
Well Casing Material: PVC	
Total Well Depth (TD): 11.5 FT.	
Static Water Level (WL): 1.82	
One Casing Volume(gal/L): 0.37	
Start Purge (hrs): 1725	
End Purge (hrs): 1731	
Total Purge Time (min): 6	
Total Vol. Purged (gal/L): 2.1 Liters	

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
VOCs	8021B	HCl	2-40ml vials	ENCO	yes
SVOCs	8310	None	1-1Liter glass ambers	ENCO	yes
Pb	6010B	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

Well cap = 0.01 gal/ft.
1 Vol = 0.37   5 Vol = 1.8
set tubing at 7 ft.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.: No

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - GAS HILL	Sample ID No.:	NASJ-159-GH-33-02
Project No.:	N0255.FB0.050.230	Sample Location:	GH-33

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

SAMPLING DATA

Date: 9/2/1999	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	Salinity ppt	
Time: 1622								
Method: Peristaltic	cloudy	5.46	.244	27.8	166	1.22		

PURGE DATA

Date: 9/2/1999	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 0.5 in.	
Well Casing Material: PVC	
Total Well Depth (TD): 11.54	
Static Water Level (WL): 2.50 ft.	
One Casing Volume(gal/L): 0.34	
Start Purge (hrs): 1605	
End Purge (hrs): 1614	
Total Purge Time (min): 9	
Total Vol. Purged (gal/L): 1.8 Liters	

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
VOCs	8021B	HCl	2-40ml vials	ENCO	
SVOCs	8310	None	1-1Liter glass ambers	ENCO	
Pb	6010B	HNO3	1-250ml plastic	ENCO	

OBSERVATIONS / NOTES

1 vol = 0.34 L ∴ 5 vol = 1.7 Liters
set tubing to 7 FT. BTOC.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.: ND

Signature(s): Eric Parker

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project / Site:	NAS Jacksonville - GAS HILL	Sample ID No.:	NASJ-159-GH-34-02
Project No.:	N0255.FB0.050.230	Sample Location:	GH-34
		Sampler:	M. Dale

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 9/2/1999	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	Salinity ppt	
Time: 1716								
Method: Peristaltic	clear	6.18	0.325	28.0	645	3.99	—	

PURGE DATA

Date: 9/2/1999	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 0.5 in.	
Well Casing Material: PVC	
Total Well Depth (TD): 12.5 FT.	
Static Water Level (WL): 3.20 FT	
One Casing Volume(gal/L): 0.35	
Start Purge (hrs): 1620	
End Purge (hrs): 1709	
Total Purge Time (min): 49	
Total Vol. Purged (gal/L): 2.55	

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
VOCs	8021B	HCl	2-40ml vials	ENCO	yes
SVOCs	8310	None	1-1Liter glass ambers	ENCO	yes
Pb	6010B	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

1 VOL = 0.35 L 5 VOL = 1.8 L
SET TUBING TO ~8 FT. BTOC.
AT 1711, Shut off pump for 5min. to recover then collect SVOA.
AT 1716-1717, collected 300 mL in 1L amber before sucking air.
PLAN to stop and start in this MANNER until SVOA and metals are full.
COLLECTED VOA'S BY STRAW method with full column of H_2O in tubing!
1747 W.L. = 4.62 FT.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:

☐ MS / MSD ☐ DUPLICATE / ID No.: NO

Signature(s):

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - GAS HILL	Sample ID No.:	NASJ-159-GH-35-02
Project No.:	N0255.FB0.050.230	Sample Location:	GH-35
		Sampler:	Eric Parker

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

Date: 9/2/1999	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	
Time: 1435		S.U.	mS/cm	°C	NTU	mg/L	ppt	
Method: Peristaltic	clear	6.02	0.570	26.4	2	0.49	—	

PURGE DATA

Date: 9/2/1999	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 0.5 in.	
Well Casing Material: PVC	
Total Well Depth (TD): 24.5 ft	
Static Water Level (WL): 16.43 ft	
One Casing Volume(gal/L): 0.3	
Start Purge (hrs): 1420	
End Purge (hrs): 1426	
Total Purge Time (min): 6	
Total Vol. Purged (gal/L): 1.8 Liters	

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
VOCs	8021B	HCl	2-40ml vials	ENCO	yes
SVOCs	8310	None	1-1Liter glass ambers	ENCO	↓
Pb	6010B	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

set tubing about 20 to 21 ft btoc.
well cap = 0.01 gal/ft.
5 well vol = 1.5 Liters

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159- 2
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.: No

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - GAS HILL	Sample ID No.:	NASJ-159-GH-36-02
Project No.:	N0255.FB0.050.230	Sample Location:	GH-36

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. DALE

SAMPLING DATA

	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	Salinity ppt	
Date: 9/2/1999								
Time: 1442								
Method: Peristaltic	cldy/dark	5.51	0.125	26.7	97	1.29	—	

PURGE DATA

Date: 9/2/1999	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 0.5 in.	
Well Casing Material: PVC	
Total Well Depth (TD): 25.5 FT.	
Static Water Level (WL): 15.34 FT.	
One Casing Volume(gal/L): 0.1	
Start Purge (hrs): 1428	
End Purge (hrs): 1436	
Total Purge Time (min): 8	
Total Vol. Purged (gal/L): 2.4	

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
VOCs	8021B	HCl	2-40ml vials	ENCO	yes
SVOCs	8310	None	1-1Liter glass ambers	ENCO	yes
Pb	6010B	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

one vol = 0.1 gal or 0.38 Liters
5 vols = 0.5 gal or 1.9 L.
set tubing to about ~~20~~ ft. btoc.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.: NO

Signature(s): Mervin W. Dale

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site: NAS Jacksonville - GAS HILL
Project No.: N0255.FB0.050.230

Sample ID No.: NASJ-159-GH-37-02
Sample Location: GH-37
Sampler: M. Dole

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

SAMPLING DATA

	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	Salinity ppt	
Date: 9/2/1999								
Time: 1529								
Method: Peristaltic	cloudy	5.94	0.293	25.9	215	0.90	—	

PURGE DATA

Date: 9/2/1999
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 0.5 in.
Well Casing Material: PVC
Total Well Depth (TD): 17.21 FT.
Static Water Level (WL): 12.59 FT.
One Casing Volume(gal/L): 0.32
Start Purge (hrs): 1515
End Purge (hrs): 1520
Total Purge Time (min): 5
Total Vol. Purged (gal/L): 7.8

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
VOCs	8021B	HCl	2-40ml vials	ENCO	yes
SVOCs	8310	None	1-1Liter glass ambers	ENCO	yes
Pb	6010B	HNO3	1-250ml plastic	ENCO	yes

OBSERVATIONS / NOTES

1 vol = 0.32 5vol = 1.6 L
set tubing to 17 ft.btoc.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:

[ ] MS / MSD
[X] DUPLICATE / ID No.: NASJ-159-GH-DUP1-02

Signature(s): Mervin L. Dole

Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site:	NAS Jacksonville - GAS HILL	Sample ID No.:	NASJ-159-GH-38-02
Project No.:	N0255.FB0.050.230	Sample Location:	GH-38

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

SAMPLING DATA

	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	Salinity ppt	
Date: 9/2/1999								
Time: 1030								
Method: Peristaltic	BRN	5.90	.187	24.6	213	1.06	—	

PURGE DATA

Date: 9/2/1999	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 0.5 in.	
Well Casing Material: PVC	
Total Well Depth (TD): 22 FT.	
Static Water Level (WL): 5.10 FT.	
One Casing Volume(gal/L): 0.26	
Start Purge (hrs): 1015	
End Purge (hrs): 1020	
Total Purge Time (min): 5	
Total Vol. Purged (gal/L): 1.5 Liters	

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
VOCs	8021B	HCl	2-40ml vials	ENCO	yes
SVOCs	8310	None	1-1Liter glass ambers	ENCO	↓
Pb	6010B	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

1 vol = 0.26 Liters 5 vol = 1.3 Liters
set tubing to 18.5 FT. BTOC.

MSMSD Label = NASJ-159-GH-MSMSD1-02

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:
[X] MS / MSD [ ] DUPLICATE / ID No.: None

Signature(s): Eric Parker

Tetra Tech NUS, Inc. **GROUNDWATER SAMPLE LOG SHEET**

Project / Site:	NAS Jacksonville - GAS HILL	Sample ID No.:	NASJ-159-GH-39-02
Project No.:	N0255.FB0.050.230	Sample Location:	GH-39

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. Dale

SAMPLING DATA

	Color	pH S.U.	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	Salinity ppt	
Date: 9/2/1999								
Time: 1036								
Method: Peristaltic	clear	5.94	0.226	26.0	~10	0.63	0.00	

PURGE DATA

Date: 9/2/1999	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic	
Monitor Reading (ppm): N/A	
Well Casing Diameter: 0.5 in.	
Well Casing Material: PVC	
Total Well Depth (TD): 23 FT.	
Static Water Level (WL): 13.70 FT	
One Casing Volume(gal/L): 0.35	
Start Purge (hrs): 1028	
End Purge (hrs): 1034	
Total Purge Time (min): 6	
Total Vol. Purged (gal/L): 2.1	

SAMPLE COLLECTION INFORMATION

Analysis		Preservative	Container Requirements	Laboratory	Collected
VOCs	8021B	HCl	2-40ml vials	ENCO	yes
SVOCs	8310	None	1-1Liter glass ambers	ENCO	↓
Pb	6010B	HNO3	1-250ml plastic	ENCO	↓

OBSERVATIONS / NOTES

1 VOL = 0.35 Liters 5 VOLS = 1.8 Liters
SET TUBING TO 18.5 FT. BTOC.

LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.: NO

Signature(s): Marvin W. Dale

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

13500

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-01
DATE: 073099

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	ml Comments
1110	6.93	400	5.84	.234	999	2.66	27.9		Start
1120	8.41	400	5.80	.234	-10	2.55	27.1	4000	cloudy, no odor
1130	8.35	200	5.89	.272	451	2.07	27.1	6000	cloudy, no odor
1140	8.47	200	5.85	.272	359	1.89	27.0	8000	cloudy, no odor
1145	stop pump to change hose								
1150	9.10	180	5.83	.241	492	1.46	27.0	9800	cloudy, no odor
1200	9.10	180	5.81	.245	383	2.64	27.1	11600	cloudy, no odor
1210	9.12	180	5.80	.242	268	0.79	26.9	13400	cloudy, no odor
1215	9.13	180	5.81	.243	289	2.09	27.0	14300	cloudy, no odor

SIGNATURE(S): Eric Parker

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-2
DATE: 080299

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1052	6.97	250	5.40	0.242	51	1.74	28.3	0	Start
1103	7.80	250	5.31	0.232	12	1.91	27.3	2.8	clear petro-like odor
1105	—	200	—	—	—	—	—	3.3	slowed flow rate.
1110	7.90	200	5.03	0.233	5	1.18	27.1	4.3	
1120	7.94	200	4.96	0.232	0	0.62	26.6	5.3	clear
1130	7.97	200	5.01	0.230	6	1.18	26.4	6.3	clear
1140	7.98	200	5.09	0.230	11	1.37	26.2	7.3	clear
1150	8.00	200	5.12	0.229	11	0.93	26.1	8.3	clear
1200	8.00	200	5.16	0.230	13	1.03	26.2	9.3	clear
1210	8.01	200	5.18	0.229	11	1.09	26.1	10.3	clear
1220	8.01	200	5.23	0.228	7	1.07	26.1	11.3	clear
1230	8.01	200	5.25	0.228	1	1.07	26.0	12.3	clear
1233	—	200	5.30	0.227	2	0.81	25.9	12.9	clear

SIGNATURE(S): Merin H. Dale

1 VOL = 4.3L 3 VOLS = 12.9L

PAGE_1__OF_1__

Tetra Tech NUS, Inc.

14700

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-3
DATE: 080299

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. ~~(Liters)~~ mL	Comments
0905	6.77	500	6.25	.524	20	0.89	28.1	Ø	Start
0910	8.10	500	6.54	.518	0	1.33	27.8	2500	clear
0920	8.54	200	6.63	.608	0	1.33	27.3	4500	clear
0930	8.94	200	6.49	.634	0	1.24	26.8	6500	clear
0940	8.94	200	6.50	.640	1	0.84	26.8	8500	clear
0950	8.96	200	6.51	.642	0	1.08	26.7	10500	clear
1000	8.96	200	6.50	.645	0	1.03	26.8	12500	clear
1010	8.95	200	6.52	.646	1	1.80	26.8	14500	clear
1015	8.96	200	6.52	.643	0	1.17	26.9	15500	clear

NWD

SIGNATURE(S): Eric Parker

PAGE_1__OF_1__

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-4
DATE: 080399

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. ~~(Liters)~~ mL	Comments
1225	3.00	300	6.29	.395	324	1.29	27.9	Ø	Start
1235	~~3.00~~ 4.30	~~300~~	6.28	.395	301	0.98	27.7	~~3000~~	
1245	4.35	200	6.26	.393	288	1.50	27.4	5000	
1253	4.21	200	6.26	.403	115	1.81	27.2	7000	
1305	4.20	200	6.26	.405	69	1.86	27.1	9000	
1315	4.15	200	6.24	.407	23	1.58	26.9	11000	clear
1325	4.15	200	6.23	.406	7	1.72	26.8	1300	clear
1330	4.10	200	6.23	.405	10	1.81	26.8	1400	Finish

13400

MWL

SIGNATURE(S): ____________

1 VOL = 4.6 3 VOLS = 13.8 L

PAGE_1_OF_1_

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: __JAX-159-GH-5
DATE: 080399

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
0940	5.03	100	5.82	2.41	93	1.13	25.3	0	Start
0953	5.13	100	—	—	—	—	—	1.3	
0955	—	175	—	—	—	—	—	1.4	increase flow rate
0957	5.15	175	5.95	2.41	150	2.50	25.0	1.9	
1001	5.15	175	5.90	2.41	86	2.13	24.9	2.6	
1003	—	225	—	—	—	—	—	3.0	increase flow rate
1008	6.00	225	5.86	2.41	60	1.66	24.8	4.1	
1010	—	180	—	—	—	—	—	4.5	slowed pump
1015	6.25	180	5.90	2.42	30	2.53	25.0	5.4	cldy.
1025	6.50	180	5.93	2.42	2	2.27	25.2	7.2	cldy.
1035	6.77	180	5.81	2.42	9	0.51	25.2	9	
1045	6.95	180	5.81	2.41	6	0.93	25.3	10.8	stable, stop @ 1045

1 VOL = 3.1 L 3 VOLS = 9.3 L

SIGNATURE(S): [signature]

PAGE_1__OF_1__

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-6
DATE: 080399

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1242	4.74	100	6.38	1.43	223	2.47	28.7	0	Start
1254	5.30	100	6.35	1.41	24	1.45	27.4	1.2	clear
1203	5.66	100	6.24	1.39	5	1.42	27.6	2.1	clear
1311	5.98	100	6.28	1.38	6	2.07	27.5	2.9	clear
1322	6.27	100	6.36	1.38	-5	2.41	27.5	4	clear
1334	6.62	100	6.39	1.38	3	2.63	27.3	5.2	clear
1350	6.99	100	6.43	1.38	7	2.39	27.7	6.8	clear
1400	7.28	100	6.46	1.38	7	2.43	27.6	7.8	clear
1410	7.46	100	6.39	1.39	7	1.72	27.5	8.8	clear
1423	7.75	100	6.41	1.39	9	1.63	27.3	10.1	clear
1439	8.10	100	6.43	1.39	25	1.85	27.8	11.7	clear
1445	8.23	100	6.44	1.38	3	1.87	27.0	12.3	clear
1453	8.36	100	6.45	1.39	7	2.12	27.3	13.1	clear
									stable, stop@1453.

SIGNATURE(S): [signature]

1 VOL = 4.3 L   3 VOLS = 12.9 L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH- 7
DATE: 080399

13200

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. mL (Liters)	Comments
0920	2.74	300	6.24	.092	42	1.05	25.1	∅	Start
0930	4.21	300	6.53	.772	8	2.83	25.5	3000	clear
0940	3.98	200	6.70	.781	11	0.65	25.4	5000	clear
0950	4.00	200	6.68	.779	7	0.80	25.1	7000	clear
1000	4.22	200	6.71	.775	2	1.04	24.9	9000	clear
1010	4.25	200	6.69	.773	8	0.89	25.0	11000	clear
1020	4.41	200	6.70	.776	9	0.69	25.0	13000	clear
1025	4.40	200	6.71	.776	10	0.67	25.1	14000	clear

SIGNATURE(S): Eric Parker

1 vol = 4.4 L   3 vols = 13.2 L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH- 8
DATE: 080399

16800

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1435	7.75	300	6.39	.557	337	0.77	27.3	Ø	Start
1445	9.80	300	6.47	.554	374	1.79	27.1	3000	
1455	8.75	200	6.49	.564	302	1.75	27.4	5000	
1505	9.75	200	6.49	.568	142	1.70	27.2	7000	
1515	8.75	200	6.45	.570	89	1.12	26.9	9000	
1525	8.75	200	6.40	.567	77	1.81	26.5	11000	
1535	9.01	200	6.39	.560	53	1.64	26.2	13000	
1545	9.00	200	6.40	.559	41	1.60	26.0	15000	
1555	9.10	200	6.40	.558	8	2.89	26.1	17000	

SIGNATURE(S): Eric Parker

1 VOL = 5.5L 3VOLS = 16.5L

PAGE_1_OF_1_

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-9
DATE: 080299

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
0905	6.81	275	6.22	0.577	-10	1.53	26.5	0	Start
0910	7.13	275	6.40	0.568	-10	1.57	25.8	1.4	clear
0920	7.33	250	6.45	0.569	-10	1.79	25.4	4.2	@0920-slowed pump/clear
0932	7.33	250	6.46	0.570	-10	1.37	25.6	7.2	clear
0939	7.34	250	6.50	0.577	-10	1.96	25.6	10.4	clear
0945	7.34	250	6.36	0.567	-10	1.96	25.1	11.9	clear
0950	7.37	250	6.48	0.570	-10	1.81	25.1	13.2	clear
0955 ~~1000~~	7.37	250	6.37	0.570	-10	1.82	25.0	14.5	clear
									stable, stop@ 0955

SIGNATURE(S): [signature]

1 VOL = 4.6L 3 VOL = 13.8L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-10
DATE: 080299

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1626	7.34	~225	—	—	—	—	—	0	Start
1631	7.80	225	6.26	0.759	9	2.57	27.2	1.1	clear
1637	8.57	200	—	—	—	—	—	2.4	slowed purge rate
1647	9.20	200	6.27	0.698	-10	2.06	26.7	3.4 MO	clear
1657	9.92	200	6.16	0.707	-10	2.17	26.3	7 ~~4.4~~	clear
1707	10.57	200	6.33	0.737	-10	2.21	26.3	9 ~~5.4~~	clear
~~1717~~								11 ~~6.4~~	
~~1727~~								13 ~~7.4~~	
MO ~~1737~~								~~8.4~~	
MO ~~1747~~								~~9.4~~	
MO ~~1757~~								~~10.4~~	
MO ~~1807~~								~~11.4~~	
MO ~~1817~~								~~12.4~~	
1715	11.02	200	6.19	0.777	-10	2.22	25.8	11	clear
1720	11.36	200	6.24	0.778	-10	2.23	25.5	12	clear
1725	11.67	200	6.20	0.795	-10	2.27	25.5	13	clear
									stable, stop @ 1725

Well purged dry in middle of sampling VOA's. Decided to give Duplicate collection to ERIC on GH-17.

SIGNATURE(S): Mervin [illegible]

1 VOL = 4.3L 3 VOLS = 12.9L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

9300

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-12
DATE: 073099

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1625	4.10	300	6.84	.498	271	1.52	25.6	Ø	Start
1635	4.25	300	6.90	.504	89	1.49	24.8	3000	Clear
1640	4.22	300	6.82	.50	28	1.20	24.5	4500	clear
1645	4.25	300	6.84	.495	20	1.96	24.5	6000	clear
1655	4.25	300	6.83	.495	13	1.70	24.4	7500	Clear
1700	4.26	300	6.83	.493	9	1.93	24.5	9000	Clear
1705	4.26	300	6.83	.494	10	1.98	24.5	10500	Clear

mL

SIGNATURE(S): Eric Pa[illegible]

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-13
DATE: 8/2/95
16800

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters) ml	Comments
1425	6.75	300	6.30	.610	353	0.59	27.3	ø	Start
1435	8.31	300	6.31	.582	181	1.35	26.6	3000	cloudy
1445	8.40	200	6.30	.582	88	1.75	26.3	50000	cloudy
1455	8.45	200	6.30	.585	68	1.38	26.2	7000	cloudy
1505	8.45	200	6.29	.588	53	1.43	25.9	9000	cloudy
1515	8.45	200	6.28	.591	49	1.46	26.0	11000	cloudy
1525	8.49	200	6.27	.593	47	1.50	25.9	13000	cloudy
1535	8.46	200	6.29	.594	47	1.36	25.8	15000	clear
1545	8.49	200	6.30	.595	31	1.48	25.8	17000	clear

SIGNATURE(S): Eric Parker

PAGE_1_OF_1_

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-14
DATE: 073099

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
0855	6.16	300	—	—	—	—	—	—	Start
0859	—	275 ml	6.10	0.332	5	1.60	27.2	1.2L	slowed rate to 275 ml
0904	7.01	225	—	—	—	—	—	2.6L	slowed rate
0909	—	225	5.99	0.327	2	1.69	26.1	3.7	
0914	7.17								
0918	—	—	5.85	0.327	10	1.64	25.7		
0920	7.21	225	—	—	—	—	—	6.1L	
0922	—	200	—					—	slowed rate
0928	7.13	200	5.72	0.325	2	1.20	25.6	7.7L	
0933	7.11	200	5.76	0.321	2	1.63	25.7	8.7L	clear
0947	—	200	5.74	0.313	7	1.22	26.1	11.5	clear
0950	7.10	200	—	—	—	—	—	12.1	
0958	—	200	5.79	0.315	9	0.96	26.1	13.7	clear
1007	7.10	200	5.98	0.313	11	~~0~~ 1.33	26.2	15.5	clear
1018	7.10	200	6.01	0.310	10	1.18	26.9	17.3	clear
1021	7.10	200	6.08	0.309	6	1.43	26.4	17.9	stable, stop

SIGNATURE(S): [signature]

1 vol = 5.3L   3 vol = 15.9 L

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18600

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-15
DATE: 673099

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1340	5.98	200	5.76	.200	471	0.78	27.0	0	Start clear
1350	6.31	200	5.68	.192	98	1.56	26.9	2000	clear
1400	6.43	200	5.70	.192	88	1.72	26.1	4000	clear
1410	6.58	200	5.65	.190	48	0.78	25.9	6000	clear
1420	6.61	200	5.62	.192	2	0.70	25.8	8000	clear
1430	6.60	200	5.55	.185	3	0.78	25.5	10000	clear
1440	6.68	200	5.52	.190	4	1.04	25.4	12000	clear
1450	6.65	200	5.54	.189	4	1.48	25.5	14000	Clear
1500	6.68	200	5.53	.189	6	0.93	25.5	16000	clear

SIGNATURE(S): Eric Pa[illegible]

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

16800

PROJECT SITE NAME: NAS Jacksonville-Gas Hill

PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-16

DATE: 8/2/99

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. ~~(Liters)~~ mL	Comments
1045	5.78	300	6.39	.771	3	1.21	26.5	0	Start Clear
1055	6.38	300	6.31	.782	6	0.92	26.2	3000	Clear
1005	6.28	200	6.29	.784	4	1.02	25.7	5000	Clear
1105	6.35	200	6.29	.778	0	1.49	25.7	700	clear
1115	6.38	200	6.27	.776	5	1.38	25.6	900	clear
1125	6.38	200	6.26	.775	1	1.44	25.5	11000	clear
1135	6.41	200	6.26	.775	2	1.41	25.4	13000	Clear
1145	6.43	200	6.26	.775	2	1.72	25.4	15000	Clear
1155	6.43	200	6.26	.777	0	1.19	25.4	17000	clear

SIGNATURE(S): Eric Parker

PAGE_1__OF_1__

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-17
DATE: 8/2

15800

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. ~~(Liters)~~ mL	Comments
1615	6.79	300	6.82	.595	181	1.06	28.0	Ø	Start Cloudy
1625	7.84	300	6.88	.586	12	1.66	27.8	3000	clear
1635	7.81	200	6.96	.581	4	1.92	28.0	5000	Clear
1645	7.80	200	6.94	.580	3	1.72	27.9	7000	clear
1655	7.34	200	7.00	.575	0	1.95	27.8	9000	clear
1705	7.41	200	6.99	.574	-2	1.90	27.6	11000	clear
1715	7.38	200	7.00	.572	1	1.68	27.6	13000	clear
1725	7.38	200	7.01	.570	0	1.88	27.4	15000	clear
1730	7.38	200	6.99	.570	0	1.53	27.5	16000	clear

SIGNATURE(S): Eric Parker

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-19
DATE: 080299

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1438	3.23	275 ~~200~~	5.72	0.287	58	0.84	28.2	0	Start
1451	3.77	225	—	—	—	—	—	3.6	slowed purge rate
1453	3.76	225	5.55	0.300	-4	1.33	26.7	4	Lt. yellow
1500	3.73	225	5.52	0.296	-10	1.39	26.7	5.6	same
1511	3.73	225	5.49	0.297	-10	0.51	26.7	8.1	same
1520	3.74	225	5.67	0.297	-10	1.46	26.7	10.1	same
1530	3.74	225	5.68	0.298	-10	1.17	26.7	12.3	same
1537	3.74	225	5.66	0.297	-10	1.24	26.3	13.8	same

SIGNATURE(S): [signature]

1 Vol = 4.6 L 3 Vols = 13.8 L

PAGE_1__OF_1__

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-20
DATE: 080399

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1527	2.91	250	6.11	0.437	6	3.02	25.5	0	Start
1532	3.23	250	—	—	—	—	—	1.3	clear
1534	3.27	250	6.12	0.430	0	2.77	24.4	1.8	clear
1539	3.29	250	6.03	0.426	-1	2.43	25.0	3.1	clear
1545	3.30	250	5.96	0.429	1	2.55	24.0	4.6	clear
1550	3.30	250	5.96	0.430	-1	2.93	24.0	6.1	clear
1555	3.30	250	5.99	0.434	1	2.30	24.1	7.6	clear
1600	3.30	250	6.06	0.437	-2	2.35	23.9	9.1	clear
1602	3.30	250	6.01	0.437	-1	2.00	24.0	9.6	clear
									stable, stop@ 1602

SIGNATURE(S): Marvin Wilde

1 VOL = 3.1 L   3 VOLS = 9.3 L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-21
DATE: 073099

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1051	6.60	—	—	—	—	—	—	0	Start
1056	7.10	180	6.80	0.780	206	1.59	27.7	0.9	
1103	7.68	180	6.98	0.775	123	1.38	26.0	2.2	clear
1113	7.75	180	6.81	0.771	68	1.35	26.1	4	clear
1125	7.75	180	6.91	0.773	67	1.50	25.7	6.1	—
1131	7.75	180	6.89	0.773	51	1.42	25.6	7.2	clear
1145	7.75	180	6.85	0.776	25	1.11	25.9	9.7	clear stable, stop

[signature]

SIGNATURE(S): [signature]

1 VOL = 3.1 L   3 VOL = 9.3 L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-22
DATE: 073099

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	Comments
1344	7.13	200 MD	—	—	—	—	—	0	Start
1346	7.72	200	6.54	0.627	388	1.88	28.4	0.4	clear
1354	8.00	200	6.50	0.626	277	1.85	26.7	2	clear
1403	~~8.35~~ MD	200	6.42	0.623	88	1.02	25.9	3.8	clear
1412	8.35	200	6.45	0.625	40	1.50	26.1	5.6	clear
1427	8.51	200	6.37	0.625	12	1.29	25.8	7.6	clear
1432	8.62	200	6.22	0.628	13	1.07	25.8	9.6	clear
1442	8.71	200	6.18	0.629	15	0.99	25.7	11.6	clear
1452	8.75 MD	200	6.25	0.622	8	1.20	25.6	13.6	clear
1502	8.78	~~180~~ ~~200~~ 200	6.21	0.622	11	1.34	25.7	~~[illegible]~~ 15.6 MD	clear
1512	8.82	200	6.22	0.633	11	1.28	25.0	17.6	clear
1522	8.84	200	6.23	0.632	11	1.15	25.3	19.6	clear
1532	8.84	200	6.23	0.633	10	1.08	25.3	21.6	clear
1535	8.84	200	6.17	0.632	14	0.89	25.8	22.2	clear
									Stable, stop @ 1535

MWD

SIGNATURE(S): Marvin W. Dale

1 vol = 7.4 3 vol = 22.2

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL
PROJECT NUMBER: ~~0018~~ 0255

WELL ID.: ~~N~~ JAX-159-G~~A~~-23
DATE: 07/29/99

9300

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Volume ~~Comments~~ mL
1655	5.29	400	6.21	.499	-10	0.76	26.0	—	∅
1700	5.49	400	6.23	.464	-10	0.84	25.9	—	2000
1705	5.61	200	6.22	.475	-10	1.43	25.4	—	3000
1715	5.45	200	6.20	.473	-10	1.01	24.5	—	5000
1720	5.45	200	6.19	.475	-10	1.15	24.7	—	6000
1725	5.45	200	6.18	.476	-10	0.96	24.7	—	7000
1730	5.45	200	6.17	.475	-10	0.70	24.7	—	8000
1735	5.44	200	6.16	.474	-10	1.68	24.7	—	9000
1740	5.45	200	6.17	.474	-10	1.45	24.7	—	10 000

SIGNATURE(S): Eric Parker

PAGE 1 OF 1

16800

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-24
DATE: 073099

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (Liters)	~~Volume~~ ~~Comments~~ mL/ Comments
850	5.65	600	6.06	.479	11	0.76	27.0	0	Start
855	7.30	600	6.08	.476	9	0.83	26.9	3000	~~3000~~ clear
905	6.16	200	6.08	.461	6	0.89	25.7	5000	clear
915	6.20	200	6.00	.460	37	0.53	25.6	7000	no odor, clear
925	6.25	200	5.88	.460	28	0.96	25.1	9000	clear
935	6.20	200	5.75	.457	27	1.28	25.3	11000	Clear
945	6.22	200	5.79	.456	15	0.72	25.4	1300	clear
955	6.23	200	5.80	.456	16	1.66	25.5	1500	clear
1005	6.23	200	5.79	.456	15	1.29	25.5	1700	Clear

SIGNATURE(S): Eric Park

PAGE_1__OF_1__

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL
PROJECT NUMBER: ~~0018~~ 0255
WELL ID.: JAX-159-GH-25
DATE: 072999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments	CUM. VOL.
1704	2.40	—	—	—	—	—	—	—	start	
1711	4.53	250	6.81	0.644	-10	1.72	25.8	—		1.8L
1713	~~200~~ MD	200	—	—	—	—	—	—	slow down pump	2.3L
1720	4.73 *	200	6.76	0.638	-10	1.39	25.0	—		3.7L
1726	~~6.12~~ MD	200	6.76	0.637	-10	1.39	24.9	—		4.9L
1732	6.12	200	—	—	—	—	—	—		6.1L
1736	—	200	6.69	0.638	-10	1.17	24.2	—		6.9L
1739	6.24	—	—	—	—	—	—	—		7.5L
1742	—	200	6.61	0.640	-10	1.16	24.1			8.1L
1745	6.31	—	—	—	—	—	—	—		8.7L
1749	—	200	6.49	0.637	-10	1.51	24.3	—		9.5L
1755	—	200	6.48	0.649	-10	1.50	24.1	—		10.7L
1800	—	200	6.51	0.650	-10	1.65	24.1	—	stable/stop	11.7L

MWD [signature]

* use minimum flow rate of 200 ml/min despite drop in water level or would never get this done.

SIGNATURE(S): Mervin W. Dale

$3.1 \times 3 = 9.3L$

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL

PROJECT NUMBER: ~~0018~~ 0255

WELL ID.: JAX-159-GH-26

DATE: 072999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments	cum. vol.
1519	~~2.55~~ 2.53	~450	6.20	0.636	-10	0.97	26.6	—	start Lt. orange	
1526	2.83	~450	6.22	0.637	-10	1.16	26.8	—		2.2L
1532	3.00	~360	6.25	0.645	-10	1.11	26.9	—	slowed pump down	4.9L
1538	2.96	~360	6.24	0.643	-10	1.08	26.7	—	Lt. yellow	7.1L
1545	2.96	~360	6.25	0.645	-10	1.45	26.6	—		9.6L
1546	2.96	350	—	—	—	—	—	—	slow it down	9.9L
1552	2.94	350	6.21	0.643	-10	1.40	26.8	—	Lt. yellow	12.1L
1556	2.94	300	—	—	—	—	—	—	slow it down	13.5L
1604	2.89	300	6.18	0.643	-10	1.34	26.8	—	Lt. yellow	15.9L
1613	2.89	300	6.17	0.629	-10	1.45	26.5	—	stop/stable	18.6L

1 Casing V_f = 5.[illegible] = 17.1 L

SIGNATURE(S): Marvin W. Dale

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL

PROJECT NUMBER: ~~0018~~ 0255

WELL ID.: JAX-159-GH-27

DATE: 07/29/99

9300

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Volume ~~Comments~~ mL
1515	2.58	400	6.54	.581	-10	1.90	25.1	–	Ø
1520	3.21	400	6.54	.583	-10	1.54	24.8	–	2000
1525	4.10	200	6.46	.633	-10	2.50	25.0	–	3000
1530	4.30	200	6.46	.638	-10	1.80	24.8	–	4000
1535	4.30	200	6.44	.640	-10	1.56	24.6	–	5000
1540	4.31	200	6.38	.644	-10	1.50	24.5	–	6000
1545	4.31	200	6.40	.645	-10	1.76	24.5	–	7000
1550	4.30	200	6.39	.646	-10	2.03	24.5	–	8000
1555	4.31	200	6.39	.647	-10	1.65	24.4	–	9000
1600	4.30	200	6.39	.647	-10	1.56	24.5	–	10000

SIGNATURE(S): Eric Park

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL
PROJECT NUMBER: ~~0018~~ 0255

WELL ID.: JAX-159-GH-28
DATE: 07/29/99

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1016	2.60	—	6.62	0.539	-10	2.53	25.4	—	start
									slowing flow rate
									to est. water level.
									@ 1023 @ 200 ml/min
1026	—	—	—	—	—	—	—	—	cum. vol = 3.8L
1032	5.1	200	6.80	0.527	-10	1.71	26.3	—	cum. vol = 5L
1043	4.93	200	6.76	0.529	-10	1.81	26.3	—	cum. vol = 7.2L
1052	4.92	200	6.80	0.523	-10	2.30	25.9	—	cum. vol = 9L
1103	4.92	200	6.74	0.519	-10	1.96	25.8	—	cum. vol = 11.2L
									stop @ 1103

3 vols = 9.3 liters

SIGNATURE(S): Marvin W. Dale

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL

PROJECT NUMBER: ~~0018~~ 0255

WELL ID.: JAX-159-GH-29

DATE: 07/29/99

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments	Cum Vol (L)
1322	MD ~~3.12~~ 2.95	~325	6.68	0.548	-10	1.41	27.1		start	0
1332	MD ~~3.12~~ 3.07	~400	—	—	—	—	—		change flow rate	3.2L
1338	3.07	~400	6.63	0.544	-10	0.77	26.4		change flow rate	5.6L
1346	3.11	~450	6.44	0.506	-10	0.56	25.9			8.8L
1355	3.11	~450	6.46	0.480	-10	1.52	25.6		clear	12.8L
1406	3.13	~450	6.22	0.452	-10	1.04	25.9		clear	17.75L
1415	3.13	~450	6.13	0.425	700	1.07	25.7		clear	21.75L
1420	3.13	~450	6.10	0.431	410	0.86	25.5		clear	24L
1425	3.13	~450	6.03	0.413	272	1.29	25.8		clear	26.25L
									stop@ 1425	

MWD

SIGNATURE(S): Marvin W. Dale

6.2x3= 18.6L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL
PROJECT NUMBER: ~~0018~~ 0255
WELL ID.: JAX-159-GH-20
DATE: 07/29/99

20400

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Volume ~~Comments~~ mL
1315	2.50	250	6.25	.457	-10	3.68	27.7	—	0
1325	2.69	250	6.19	.446	-10	3.59	27.0	—	2500
1335	2.70	300	6.14	.444	-10	2.62	26.9	—	5500
1345	2.71	350	6.12	.441	-10	2.65	26.5		~~8500~~ 9000
1355	2.72	400	6.09	.440	-10	3.15	26.4	—	13000
1405	2.72	400	6.00	.439	-10	2.77	26.6	—	17000
1415	2.72	400	6.02	.439	-10	2.69	26.5	—	21000
1420	2.72	400	6.01	.440	-10	2.72	26.4	—	23000

SIGNATURE(S): Eric Parker

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL 17700 ml 4.6 gal

PROJECT NUMBER: ~~0018~~ 0255

WELL ID.: JAX-159-GH-31

DATE: 07/29/99

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Volume mL ~~Comments~~
1015	2.84	250	6.53	.428	392	3.28	27.7	—	0
1025	3.18	250	6.51	.436	422	2.83	28.1	—	2500
1035	3.12	200	6.58	.427	-10	3.03	27.7	—	4800
1045	3.11	225	6.46	.435	-10	2.63	27.8	—	6750
1055	3.12	225	6.45	.432	-10	2.91	27.6	—	9000
1105	3.12	225	6.44	.429	-10	3.21	27.6	—	11250
1115	3.12	225	6.45	.432	-10	3.36	27.6	—	13500
1125	3.12	225	6.46	.435	-10	2.86	27.6	—	15750
1135	3.12	225	6.46	.435	-10	3.14	27.6	—	18000

SIGNATURE(S): Eric Park

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH-32 -02
DATE: 9/2/1999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Volume	Comments
1725	1.82	350	6.33	.387	999	0.65	26.4	Ø	Start
1731	*	350	6.31	.375	280	0.35	26.0	2.1 Liter	End
1806	1.85								

* couldn't take W.L. at same time as purging due to constricted space

SIGNATURE(S): Eric Peler

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH- 33 -02
DATE: 9/2/1999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Volume Liters	Comments
1605	2.50	200	5.76	.264	999	1.48	27.9	∅	start
1614	2.65	200	5.46	.244	661	1.22	27.8	1.8	End

SIGNATURE(S): Eric Parker

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH-34 -02
DATE: 9/2/1999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	CUM. VOL. (L)	Comments
1620	3.20	—	—	—	—	—	—		
1623	*	slowed pump rate						0	start
1625	*	—	5.99	0.324	999	2.21	28.5	1L	taking air - still slugging H_2O.
1637	*	50	6.18	0.325	645	3.99	28.0	~~0.85~~ 1.6 L MD	stop
1650	—	180	—	—	—	—	—	—	restart w/ tubing set to 11 feet btoc. note: steady flow now and no air entrained.
1653	*	~50	5.84	0.318	999	3.97	27.0	1.75	sucking air!
1709	*	~50	—	—	—	—	—	2.55	" "

* constricted by diameter of riser pipe from putting anything but tubing in well. only taking before + after water levels.

SIGNATURE(S): Mervin W. Dale

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH-35-02
DATE: 9/2/1999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)		Comments Volume
1420	16.43	300	6.19	.575	112	0.40	26.8		0
1426	16.44	~~88~~ 300	6.02	.570	2	0.49	26.4		1.8 L

SIGNATURE(S): Eric Par[illegible]

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH- 36 -02
DATE: 9/2/1999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Cum. Vol. (L)	Comments
~~1431~~			~~5.60~~	~~0.131~~	~~519~~	~~1.46~~	~~27.7~~		
1428	15.34	300						0	Start
1431	*	300	5.60	0.131	519	1.46	27.7	0.9	cloudy no odor
1436	*	300	5.51	0.125	97	1.29	26.7	2.4	stop purge —
1451	15.40								

MWDale

note: 5 well vols = 1.9L
* can't take water level while purging due to small diameter of casing the probe won't fit at same time.

SIGNATURE(S): MWDale

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH- 37 -02
DATE: 9/2/1999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Volume Liter	Comments
1515	12.59	300	6.01	.294	649	1.02	26.5	0	
1520	*	300	5.94	.293	215	.90	25.9	1.85	end purge = 5 vols
1521	*	300						1.8	cloudy
1545	12.60								

* confined casing too narrow for both tubing and probe

Marvin W. Dale

SIGNATURE(S): Marvin W. Dale

PAGE 1 **OF** 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH-38 -02
DATE: 9/2/1999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	Volume	Comments
1015	~15.10	300	5.90	.170	610	1.92	25.1	Ø	Start
1020	15.14	300	5.90	.187	213	1.06	24.6	1.5L	End

SIGNATURE(S): Eric [illegible]

PAGE 1 OF 1

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH- 39 -02
DATE: 9/2/1999

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	CUM. VOL (L)	Comments
~~1028~~	~~13.70~~	~~350~~	~~5.93~~	~~0.270~~	~~257~~	~~1.03~~	~~26.6~~	~~0~~	~~start, sl. cldy~~
	*								
1034	*	350	5.94	0.226	-10	0.63	26.0	2.1	clear already past 5 volumes ready to sample.

* constricted 0.5 in diam casing so can't get probe down hole while purging.
L: liters
Note: water level after sampling @ time 1055 was 13.80.

SIGNATURE(S): Marvin W. Dale

PAGE 1 OF 1

APPENDIX G

GROUNDWATER ANALYTICAL DATA

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Tetra Tech NUS, Inc.
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REPORT # : JR7876
DATE SUBMITTED: July 30, 1999
DATE REPORTED : August 18, 1999

ATTENTION: Ms. Lee Leck

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: NO255/CTO101

NAS JAX Gas Hill

#1	- NASJ-159-GH-28-01	@ 11:08	(07/29/99)
#2	- NASJ-159-GH-31-01	@ 11:37	(07/29/99)
#3	- NASJ-159-GH-30-01	@ 14:25	(07/29/99)
#4	- NASJ-159-GH-29-01	@ 14:29	(07/29/99)
#5	- NASJ-159-GH-27-01	@ 16:05	(07/29/99)
#6	- NASJ-159-GH-26-01	@ 16:15	(07/29/99)
#7	- NASJ-159-GH-23-01	@ 17:50	(07/29/99)
#8	- NASJ-159-GH-25-01	@ 18:04	(07/29/99)
#9	- NASJ-159-GH-DUP1-01		(07/29/99)
#10	- TRIPBLK		(07/28/99)

PROJECT MANAGER ______________________
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-28-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	**2.9**	µg/L
o-Xylene	**1.8**	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	42	µg/L
Surrogate Percent Recovery	84	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	METHOD	NASJ-159-GH-28-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-28-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	**0.050** IV	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	9.0	µg/L
Surrogate Percent Recovery	90	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

V = Analyte detected in associated laboratory blank.
U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

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RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-31-01	Units
Methyl tert-butyl ether	2.0 U	μg/L
Benzene	1.0 U	μg/L
Toluene	**5.6**	μg/L
Chlorobenzene	1.0 U	μg/L
Ethylbenzene	**1.8**	μg/L
m-Xylene & p-Xylene	**7.9**	μg/L
o-Xylene	**3.8**	μg/L
1,3-Dichlorobenzene	1.0 U	μg/L
1,4-Dichlorobenzene	1.0 U	μg/L
1,2-Dichlorobenzene	1.0 U	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	49.5	μg/L
Surrogate Percent Recovery	99	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	METHOD	NASJ-159-GH-31-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-31-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	**2.6**	µg/L
Fluorene	**0.56**	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	9.8	µg/L
Surrogate Percent Recovery	98	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-30-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	46.5	µg/L
Surrogate Percent Recovery	93	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	METHOD	NASJ-159-GH-30-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-30-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	**2.3**	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	**3.3**	µg/L
Fluorene	**0.10** I	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	**0.14** IV	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	7.6	µg/L
Surrogate Percent Recovery	76	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

V = Analyte detected in associated laboratory blank.
U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

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RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-29-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	**47**	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50	µg/L
Surrogate Percent Recovery	100	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	METHOD	NASJ-159-GH-29-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

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EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-29-01	Units
Naphthalene	0.50 U	μg/L
Acenaphthylene	1.0 U	μg/L
1-Methylnaphthalene	1.0 U	μg/L
2-Methylnaphthalene	1.0 U	μg/L
Acenaphthene	**4.4**	μg/L
Fluorene	**2.1**	μg/L
Phenanthrene	1.0 U	μg/L
Anthracene	**0.11** I	μg/L
Fluoranthene	**0.12** I	μg/L
Pyrene	0.050 U	μg/L
Benzo(a)anthracene	0.050 U	μg/L
Chrysene	0.050 U	μg/L
Benzo(b)fluoranthene	0.10 U	μg/L
Benzo(k)fluoranthene	0.050 U	μg/L
Benzo(a)pyrene	0.050 U	μg/L
Dibenzo(a,h)anthracene	0.10 U	μg/L
Benzo(g,h,i)perylene	0.10 U	μg/L
Indeno(1,2,3-cd)pyrene	0.050 U	μg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	μg/L
Surrogate Reported Value	9.3	μg/L
Surrogate Percent Recovery	93	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	**NASJ-159-GH-27-01**	**Units**
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	**31**	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50	µg/L
Surrogate Percent Recovery	100	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	**METHOD**	**NASJ-159-GH-27-01**	**Units**
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

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EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-27-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	6.3	µg/L
Surrogate Percent Recovery	63	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-26-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	**9.9**	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	51	µg/L
Surrogate Percent Recovery	102	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	METHOD	NASJ-159-GH-26-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	**NASJ-159-GH-26-01**	**Units**
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	7.5	µg/L
Surrogate Percent Recovery	75	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-23-01	Units
Methyl tert-butyl ether	10 U D1	µg/L
Benzene	**100** D1	µg/L
Toluene	**12** D1	µg/L
Chlorobenzene	5.0 U D1	µg/L
Ethylbenzene	**44** D1	µg/L
m-Xylene & p-Xylene	**76** D1	µg/L
o-Xylene	**37** D1	µg/L
1,3-Dichlorobenzene	5.0 U D1	µg/L
1,4-Dichlorobenzene	5.0 U D1	µg/L
1,2-Dichlorobenzene	5.0 U D1	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	*	µg/L
Surrogate Percent Recovery	*	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	METHOD	NASJ-159-GH-23-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

* = Surrogate recovery unavailable due to matrix interference.
U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:5 dilution.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-23-01	Units
Naphthalene	**4.3**	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	7.6	µg/L
Surrogate Percent Recovery	76	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-25-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	48.5	µg/L
Surrogate Percent Recovery	97	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	METHOD	NASJ-159-GH-25-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-25-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.6	µg/L
Surrogate Percent Recovery	86	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	**NASJ-159-GH-DUP1-01**	**Units**
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	**7.0**	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	45	µg/L
Surrogate Percent Recovery	90	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/04/99	

TOTAL METALS	**METHOD**	**NASJ-159-GH-DUP1-01**	**Units**
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-DUP1-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	6.3	µg/L
Surrogate Percent Recovery	63	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/06/99	

U = Compound was analyzed for but not detected to the level shown.

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DATE REPORTED: August 18, 1999
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PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	TRIPBLK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	48	µg/L
Surrogate Percent Recovery	96	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	47.5	µg/L
Surrogate Percent Recovery	95	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/30/99	

TOTAL METALS	METHOD	LAB BLANK	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 -

PAH BY HPLC	LAB BLANK	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	**0.13** I	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	7.5	µg/L
Surrogate Percent Recovery	75	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/05/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	48	µg/L
Surrogate Percent Recovery	96	%
Surrogate Control Limits	65-129	%
Date Analyzed	07/31/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	46.5	µg/L
Surrogate Percent Recovery	93	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/03/99	

U = Compound was analyzed for but not detected to the level shown.

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	LCS TARGET µg/L	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 5030/8021					
Benzene	95/ 86/ 97	20	60-138	10	17
Toluene	103/ 91/106	20	57-138	12	16
Ethylbenzene	101/ 91/104	20	49-144	10	17
o-Xylene	100/ 91/104	20	50-151	9	17
EPA Method 3510/8310					
Naphthalene	117/108/ 86	10	22-130	8	20
Acenaphthene	94/ 88/ 87	10	14-163	6	19
Benzo(a)pyrene	62/ 60/ 97	1	33-137	3	36
Benzo(g,h,i)perylene	50/ 48/ 91	2	36-135	4	34
Total Metals					
Lead, 3010/6010b	102/103/104	1	68-126	<1	19

NOTE: Pb LCS target units are mg/L

Environmental Conservation Laboratories Comprehensive QA Plan #960038

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

sample_no	run_number	parameter	method	units	idl	mdl	crdl_crql	dil_factor	pct_moist
NASJ-159-GH-23-01	1	Lead	3010/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-23-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-23-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-23-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-23-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-23-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-23-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-23-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-23-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-23-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-23-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-23-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-23-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-23-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-23-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-23-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-23-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-23-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-23-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-23-01	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-23-01	1	Methyl tert-butyl ether	5030/8021	ug/L		1.5	10	5	
NASJ-159-GH-23-01	1	Benzene	5030/8021	ug/L		1	5	5	
NASJ-159-GH-23-01	1	Toluene	5030/8021	ug/L		2	5	5	
NASJ-159-GH-23-01	1	Chlorobenzene	5030/8021	ug/L		2	5	5	
NASJ-159-GH-23-01	1	Ethylbenzene	5030/8021	ug/L		1	5	5	
NASJ-159-GH-23-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		1.5	5	5	
NASJ-159-GH-23-01	1	o-Xylene	5030/8021	ug/L		1	5	5	
NASJ-159-GH-23-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		3	5	5	
NASJ-159-GH-23-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		2	5	5	
NASJ-159-GH-23-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		3	5	5	
NASJ-159-GH-23-01	1	Bromofluorobenzene	5030/8021	%				5	
NASJ-159-GH-25-01	1	Lead	3010/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-25-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-25-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-25-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-25-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-25-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-25-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-25-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-25-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-25-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-25-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-25-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-25-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-25-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-25-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-25-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-25-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-25-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-25-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-25-01	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-25-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1	
NASJ-159-GH-25-01	1	Benzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-25-01	1	Toluene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-25-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-25-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-25-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1	
NASJ-159-GH-25-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-25-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-25-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-25-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-25-01	1	Bromofluorobenzene	5030/8021	%				1	

NASJ-159-GH-26-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-26-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-26-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-26-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-26-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-26-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-26-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-26-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-26-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-26-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-26-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-26-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-26-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-26-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-26-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-26-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-26-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-26-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-26-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-26-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-26-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-26-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-26-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-26-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-26-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-26-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-26-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-26-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-26-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-26-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-26-01	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-27-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-27-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-27-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-27-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-27-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-27-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-27-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-27-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-27-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-27-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-27-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-27-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-27-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-27-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-27-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-27-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-27-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-27-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-27-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-27-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-27-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-27-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-27-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-27-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-27-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-27-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-27-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-27-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-27-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-27-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-27-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-28-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-28-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-28-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-28-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-28-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-28-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-28-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-28-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-28-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-28-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-28-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-28-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-28-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-28-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-28-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-28-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-28-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-28-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-28-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-28-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-28-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-28-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-28-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-28-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-28-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-28-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-28-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-28-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-28-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-28-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-28-01	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-29-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-29-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-29-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-29-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-29-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-29-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-29-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-29-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-29-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-29-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-29-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-29-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-29-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-29-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-29-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-29-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-29-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-29-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-29-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-29-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-29-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-29-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-29-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-29-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-29-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-29-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-29-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-29-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-29-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-29-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-29-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-30-01	1	Lead	3010/6010	mg/L	0.003	0.005	1
NASJ-159-GH-30-01	1	Naphthalene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-30-01	1	Acenaphthylene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-30-01	1	1-Methylnaphthalene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-30-01	1	2-Methylnaphthalene	3510/8310	ug/L	0.2	1	1
NASJ-159-GH-30-01	1	Acenaphthene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-30-01	1	Fluorene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-30-01	1	Phenanthrene	3510/8310	ug/L	0.04	1	1
NASJ-159-GH-30-01	1	Anthracene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-30-01	1	Fluoranthene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-30-01	1	Pyrene	3510/8310	ug/L	0.04	0.05	1
NASJ-159-GH-30-01	1	Benzo(a)anthracene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-30-01	1	Chrysene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-30-01	1	Benzo(b)fluoranthene	3510/8310	ug/L	0.06	0.1	1
NASJ-159-GH-30-01	1	Benzo(k)fluoranthene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-30-01	1	Benzo(a)pyrene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-30-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-30-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-30-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-30-01	1	P-Terphenyl	3510/8310	%			1
NASJ-159-GH-30-01	1	Methyl tert-butyl ether	5030/8021	ug/L	0.3	2	1
NASJ-159-GH-30-01	1	Benzene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-30-01	1	Toluene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-30-01	1	Chlorobenzene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-30-01	1	Ethylbenzene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-30-01	1	m-Xylene & p-Xylene	5030/8021	ug/L	0.3	1	1
NASJ-159-GH-30-01	1	o-Xylene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-30-01	1	1,3-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
NASJ-159-GH-30-01	1	1,4-Dichlorobenzene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-30-01	1	1,2-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
NASJ-159-GH-30-01	1	Bromofluorobenzene	5030/8021	%			1
NASJ-159-GH-31-01	1	Lead	3010/6010	mg/L	0.003	0.005	1
NASJ-159-GH-31-01	1	Naphthalene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-31-01	1	Acenaphthylene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-31-01	1	1-Methylnaphthalene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-31-01	1	2-Methylnaphthalene	3510/8310	ug/L	0.2	1	1
NASJ-159-GH-31-01	1	Acenaphthene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-31-01	1	Fluorene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-31-01	1	Phenanthrene	3510/8310	ug/L	0.04	1	1
NASJ-159-GH-31-01	1	Anthracene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-31-01	1	Fluoranthene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-31-01	1	Pyrene	3510/8310	ug/L	0.04	0.05	1
NASJ-159-GH-31-01	1	Benzo(a)anthracene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-31-01	1	Chrysene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-31-01	1	Benzo(b)fluoranthene	3510/8310	ug/L	0.06	0.1	1
NASJ-159-GH-31-01	1	Benzo(k)fluoranthene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-31-01	1	Benzo(a)pyrene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-31-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-31-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-31-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-31-01	1	P-Terphenyl	3510/8310	%			1
NASJ-159-GH-31-01	1	Methyl tert-butyl ether	5030/8021	ug/L	0.3	2	1
NASJ-159-GH-31-01	1	Benzene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-31-01	1	Toluene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-31-01	1	Chlorobenzene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-31-01	1	Ethylbenzene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-31-01	1	m-Xylene & p-Xylene	5030/8021	ug/L	0.3	1	1
NASJ-159-GH-31-01	1	o-Xylene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-31-01	1	1,3-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
NASJ-159-GH-31-01	1	1,4-Dichlorobenzene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-31-01	1	1,2-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
NASJ-159-GH-31-01	1	Bromofluorobenzene	5030/8021	%			1

NASJ-159-GH-DUP1-01	1	Lead	3010/6010	mg/L	0.003	0.005	1
NASJ-159-GH-DUP1-01	1	Naphthalene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-DUP1-01	1	Acenaphthylene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-DUP1-01	1	1-Methylnaphthalene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-DUP1-01	1	2-Methylnaphthalene	3510/8310	ug/L	0.2	1	1
NASJ-159-GH-DUP1-01	1	Acenaphthene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-DUP1-01	1	Fluorene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-DUP1-01	1	Phenanthrene	3510/8310	ug/L	0.04	1	1
NASJ-159-GH-DUP1-01	1	Anthracene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-DUP1-01	1	Fluoranthene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-DUP1-01	1	Pyrene	3510/8310	ug/L	0.04	0.05	1
NASJ-159-GH-DUP1-01	1	Benzo(a)anthracene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-DUP1-01	1	Chrysene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-DUP1-01	1	Benzo(b)fluoranthene	3510/8310	ug/L	0.06	0.1	1
NASJ-159-GH-DUP1-01	1	Benzo(k)fluoranthene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-DUP1-01	1	Benzo(a)pyrene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-DUP1-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-DUP1-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-DUP1-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-DUP1-01	1	P-Terphenyl	3510/8310	%			1
NASJ-159-GH-DUP1-01	1	Methyl tert-butyl ether	5030/8021	ug/L	0.3	2	1
NASJ-159-GH-DUP1-01	1	Benzene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-DUP1-01	1	Toluene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-DUP1-01	1	Chlorobenzene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-DUP1-01	1	Ethylbenzene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-DUP1-01	1	m-Xylene & p-Xylene	5030/8021	ug/L	0.3	1	1
NASJ-159-GH-DUP1-01	1	o-Xylene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-DUP1-01	1	1,3-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
NASJ-159-GH-DUP1-01	1	1,4-Dichlorobenzene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-DUP1-01	1	1,2-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
NASJ-159-GH-DUP1-01	1	Bromofluorobenzene	5030/8021	%			1
TRIPBLK	1	Methyl tert-butyl ether	5030/8021	ug/L	0.3	2	1
TRIPBLK	1	Benzene	5030/8021	ug/L	0.2	1	1
TRIPBLK	1	Toluene	5030/8021	ug/L	0.4	1	1
TRIPBLK	1	Chlorobenzene	5030/8021	ug/L	0.4	1	1
TRIPBLK	1	Ethylbenzene	5030/8021	ug/L	0.2	1	1
TRIPBLK	1	m-Xylene & p-Xylene	5030/8021	ug/L	0.3	1	1
TRIPBLK	1	o-Xylene	5030/8021	ug/L	0.2	1	1
TRIPBLK	1	1,3-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
TRIPBLK	1	1,4-Dichlorobenzene	5030/8021	ug/L	0.4	1	1
TRIPBLK	1	1,2-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
TRIPBLK	1	Bromofluorobenzene	5030/8021	%			1

QSARF # 03943

BR046

ENVIRONMENTAL CONSERVATION LABORATORIES

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10207 General Drive
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ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: NASJAX, GAS HILL CTO 101
PROJECT NO.: N0255
P.O. NUMBER:
PROJECT LOC. (State): FL
SAMPLER(s) NAME: MERVIN DALE / ERIC PARKER
PHONE: 904 281 0400
FAX: 904 281 0070
CLIENT NAME: TetraTech NUS
CLIENT PROJECT MANAGER: SAM PRATT
CLIENT ADDRESS (CITY, STATE, ZIP): JACKSONVILLE, FL 32256

PAGE 1 OF 1

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)

Date Due:

MATRIX TYPE: SURFACE WATER, GROUND WATER, WASTEWATER, DRINKING WATER, SOIL/SOLID/SEDIMENT, NONAQUEOUS LIQUID (oil, solvent, etc.), AIR, SLUDGE, OTHER

REQUIRED ANALYSIS: 8021B (PRESERVATIVE: HCl); 8310 (PRESERVATIVE: None); Pb 6010B (PRESERVATIVE: HNO_3) — NUMBER OF CONTAINERS SUBMITTED

STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER	8021B (HCl)	8310 (None)	Pb 6010B (HNO_3)	REMARKS
1	07/29/99	1108	✓		NASJ-159-GH-28-01		✓								2	1	1	COC# 03943
2	07/29/99	1137	✓		NASJ-159-GH-31-01		✓								2	1	1	
3	07/29/99	1425	✓		NASJ-159-GH-30-01		✓								2	1	1	
4	07/29/99	1429	✓		NASJ-159-GH-29-01		✓								2	1	1	
5	07/29/99	1605	✓		NASJ-159-GH-27-01		✓								2	1	1	
6	07/29/99	1615	✓		NASJ-159-GH-26-01		✓								2	1	1	
7	07/29/99	1750	✓		NASJ-159-GH-23-01		✓								2	1	1	
8	07/29/99	1804	✓		NASJ-159-GH-25-01		✓								2	1	1	
9	07/29/99	0000	✓		NASJ-159-GH-													
10	—	—	—		DUP1-01		✓								2	1	1	
11	07/28/99	—	✓		TRIP BLANK									✓	2			
12																		
13																		
14																		

SAMPLE KIT PREPARED BY: ☒ JACKSONVILLE ☐ ORLANDO	DATE	TIME	RELINQUISHED BY: (SIGNATURE) Mervin V. Dale	DATE 07/30/99	TIME 0739	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
[signature] ☒ Jacksonville ☐ Orlando	7/30/99	740	☒ YES ☐ NO	JR7876	MERV'S PAGER 1800 471 6451

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
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www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CASE NARRATIVE

Date: August 19, 1999

Client: Tetra Tech NUS, Inc.

Project #: N0255 / CTO101

Lab ID: JR7876

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Nine aqueous samples and one trip blank were received on July 30, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

Quality Control Remarks

In the 8021 analysis of sample NASJ-159-GH-23-01, the surrogate recovery was unavailable due to matrix interference. As a result of these interferences, the sample was analyzed at a 1:5 dilution.

A positive result of 0.13 ug/L was obtained for pyrene in the 8310 preparatory blank. All samples associated with this blank were significantly below the Florida action level of 210 ug/L. Any positive result for this constituent in this batch of samples was flagged with a "V", the Florida Department of Environmental Protection's blank qualifier.

Other Comments

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
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ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Tetra Tech NUS, Inc.
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REPORT # : JR7908
DATE SUBMITTED: July 31, 1999
DATE REPORTED : August 18, 1999

ATTENTION: Ms. Lee Leck

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: NO255/CTO101

NAS JAX Gas Hill

07/30/99

#1 - NASJ-159-GH-24-01 @ 10:10
#2 - NASJ-159-GH-14-01 @ 10:24
#3 - NASJ-159-GH-21-01 @ 11:48
#4 - NASJ-159-GH-01-01 @ 12:20
#5 - NASJ-159-GH-15-01 @ 15:05
#6 - NASJ-159-GH-22-01 @ 15:43
#7 - NASJ-159-GH-12-01 @ 17:12

PROJECT MANAGER ______________________
Scott D. Martin

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-24-01	Units
Methyl tert-butyl ether	**3.5**	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	**3.2**	µg/L
m-Xylene & p-Xylene	**2.1**	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	48	µg/L
Surrogate Percent Recovery	96	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/01/99	

TOTAL METALS	METHOD	NASJ-159-GH-24-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-24-01	Units
Naphthalene	**0.90**	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	9.8	µg/L
Surrogate Percent Recovery	98	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/09/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-14-01			Units
Methyl tert-butyl ether	40	U	D1	µg/L
Benzene	**270**		D1	µg/L
Toluene	20	U	D1	µg/L
Chlorobenzene	20	U	D1	µg/L
Ethylbenzene	20	U	D1	µg/L
m-Xylene & p-Xylene	20	U	D1	µg/L
o-Xylene	20	U	D1	µg/L
1,3-Dichlorobenzene	20	U	D1	µg/L
1,4-Dichlorobenzene	20	U	D1	µg/L
1,2-Dichlorobenzene	20	U	D1	µg/L
Surrogate (Bromofluorobenzene)				
Surrogate Expected Value	50			µg/L
Surrogate Reported Value	46			µg/L
Surrogate Percent Recovery	92			%
Surrogate Control Limits	65-129			%
Date Analyzed	08/02/99			

TOTAL METALS	METHOD	NASJ-159-GH-14-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/03/99	

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-14-01	Units
Naphthalene	**0.90**	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	**0.17**	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.7	µg/L
Surrogate Percent Recovery	87	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-21-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	47	µg/L
Surrogate Percent Recovery	94	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/02/99	

TOTAL METALS	METHOD	NASJ-159-GH-21-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/03/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-21-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	9.7	µg/L
Surrogate Percent Recovery	99	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	**NASJ-159-GH-01-01**	**Units**
Methyl tert-butyl ether	20 U D2	µg/L
Benzene	**130** D2	µg/L
Toluene	10 U D2	µg/L
Chlorobenzene	10 U D2	µg/L
Ethylbenzene	10 U D2	µg/L
m-Xylene & p-Xylene	10 U D2	µg/L
o-Xylene	10 U D2	µg/L
1,3-Dichlorobenzene	10 U D2	µg/L
1,4-Dichlorobenzene	10 U D2	µg/L
1,2-Dichlorobenzene	10 U D2	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	47.5	µg/L
Surrogate Percent Recovery	95	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/02/99	

TOTAL METALS	**METHOD**	**NASJ-159-GH-01-01**	**Units**
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/03/99	

U = Compound was analyzed for but not detected to the level shown.
D2 = Analyte value determined from a 1:10 dilution.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-01-01	Units
Naphthalene	**0.70** I	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.9	µg/L
Surrogate Percent Recovery	89	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-15-01	Units
Methyl tert-butyl ether	40 U D1	μg/L
Benzene	**260** D1	μg/L
Toluene	20 U D1	μg/L
Chlorobenzene	20 U D1	μg/L
Ethylbenzene	20 U D1	μg/L
m-Xylene & p-Xylene	20 U D1	μg/L
o-Xylene	20 U D1	μg/L
1,3-Dichlorobenzene	20 U D1	μg/L
1,4-Dichlorobenzene	20 U D1	μg/L
1,2-Dichlorobenzene	20 U D1	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	45.5	μg/L
Surrogate Percent Recovery	91	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/02/99	

TOTAL METALS	METHOD	NASJ-159-GH-15-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/03/99	

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-15-01	Units
Naphthalene	**1.7**	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.3	µg/L
Surrogate Percent Recovery	83	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-22-01	Units
Methyl tert-butyl ether	**2.0**	µg/L
Benzene	**1.2**	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	47	µg/L
Surrogate Percent Recovery	94	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/02/99	

TOTAL METALS	METHOD	NASJ-159-GH-22-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/03/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-22-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	**0.11** I	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.6	µg/L
Surrogate Percent Recovery	86	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-12-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	48.5	µg/L
Surrogate Percent Recovery	97	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/01/99	

TOTAL METALS	METHOD	NASJ-159-GH-12-01	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/03/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-12-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	9.0	µg/L
Surrogate Percent Recovery	90	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	μg/L
Benzene	1.0 U	μg/L
Toluene	1.0 U	μg/L
Chlorobenzene	1.0 U	μg/L
Ethylbenzene	1.0 U	μg/L
m-Xylene & p-Xylene	1.0 U	μg/L
o-Xylene	1.0 U	μg/L
1,3-Dichlorobenzene	1.0 U	μg/L
1,4-Dichlorobenzene	1.0 U	μg/L
1,2-Dichlorobenzene	1.0 U	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	46.5	μg/L
Surrogate Percent Recovery	93	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/01/99	

TOTAL METALS	METHOD	LAB BLANK	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		08/02/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	LAB BLANK	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	9.8	µg/L
Surrogate Percent Recovery	98	%
Surrogate Control Limit	39-148	%
Date Extracted	08/04/99	
Date Analyzed	08/09/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	43	µg/L
Surrogate Percent Recovery	86	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/02/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	LCS TARGET mg/L	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 602/6230D/8020/8021					
Benzene	*/ */102	20	60-138	*	17
Toluene	112/111/104	20	57-138	<1	16
Ethylbenzene	114/116/110	20	49-144	2	17
o-Xylene	102/102/103	20	50-151	<1	17
EPA Method 8310					
Naphthalene	100/ 84/ 79	10	22-130	17	20
Acenaphthene	74/ 69/ 78	10	14-163	7	19
Benzo(a)pyrene	100/100/ 86	1	33-137	<1	36
Benzo(g,h,i)perylene	72/ 67/ 93	2	36-135	7	34
Total Metals					
Lead, 3010/6010b	100/ 99/100	1	68-126	1	19

NOTE: LCS target units for Pb LCS are mg/L.

Environmental Conservation Laboratories Comprehensive QA Plan #960038

* = MS/MSD/RPD unavailable due to high original sample concentration.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

sample_no	run_number	parameter	method	units	idl	mdl	crdl_crql	dil_factor	pct_moist
NASJ-159-GH-01-01	1	Lead	3010/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-01-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-01-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-01-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-01-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-01-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-01-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-01-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-01-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-01-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-01-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-01-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-01-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-01-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-01-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-01-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-01-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-01-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-01-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-01-01	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-01-01	1	Methyl tert-butyl ether	5030/8021	ug/L		3	20	10	
NASJ-159-GH-01-01	1	Benzene	5030/8021	ug/L		2	10	10	
NASJ-159-GH-01-01	1	Toluene	5030/8021	ug/L		4	10	10	
NASJ-159-GH-01-01	1	Chlorobenzene	5030/8021	ug/L		4	10	10	
NASJ-159-GH-01-01	1	Ethylbenzene	5030/8021	ug/L		2	10	10	
NASJ-159-GH-01-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		3	10	10	
NASJ-159-GH-01-01	1	o-Xylene	5030/8021	ug/L		2	10	10	
NASJ-159-GH-01-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		6	10	10	
NASJ-159-GH-01-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		4	10	10	
NASJ-159-GH-01-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		6	10	10	
NASJ-159-GH-01-01	1	Bromofluorobenzene	5030/8021	%				10	
NASJ-159-GH-12-01	1	Lead	3010/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-12-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-12-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-12-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-12-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-12-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-12-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-12-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-12-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-12-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-12-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-12-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-12-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-12-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-12-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-12-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-12-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-12-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-12-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-12-01	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-12-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1	
NASJ-159-GH-12-01	1	Benzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-12-01	1	Toluene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-12-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-12-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-12-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1	
NASJ-159-GH-12-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-12-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-12-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-12-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-12-01	1	Bromofluorobenzene	5030/8021	%				1	

NASJ-159-GH-14-01	1	Lead	3010/6010	mg/L	0.003	0.005	1
NASJ-159-GH-14-01	1	Naphthalene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-14-01	1	Acenaphthylene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-14-01	1	1-Methylnaphthalene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-14-01	1	2-Methylnaphthalene	3510/8310	ug/L	0.2	1	1
NASJ-159-GH-14-01	1	Acenaphthene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-14-01	1	Fluorene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-14-01	1	Phenanthrene	3510/8310	ug/L	0.04	1	1
NASJ-159-GH-14-01	1	Anthracene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-14-01	1	Fluoranthene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-14-01	1	Pyrene	3510/8310	ug/L	0.04	0.05	1
NASJ-159-GH-14-01	1	Benzo(a)anthracene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-14-01	1	Chrysene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-14-01	1	Benzo(b)fluoranthene	3510/8310	ug/L	0.06	0.1	1
NASJ-159-GH-14-01	1	Benzo(k)fluoranthene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-14-01	1	Benzo(a)pyrene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-14-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-14-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-14-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-14-01	1	P-Terphenyl	3510/8310	%			1
NASJ-159-GH-14-01	1	Methyl tert-butyl ether	5030/8021	ug/L	6	40	20
NASJ-159-GH-14-01	1	Benzene	5030/8021	ug/L	4	20	20
NASJ-159-GH-14-01	1	Toluene	5030/8021	ug/L	8	20	20
NASJ-159-GH-14-01	1	Chlorobenzene	5030/8021	ug/L	8	20	20
NASJ-159-GH-14-01	1	Ethylbenzene	5030/8021	ug/L	4	20	20
NASJ-159-GH-14-01	1	m-Xylene & p-Xylene	5030/8021	ug/L	6	20	20
NASJ-159-GH-14-01	1	o-Xylene	5030/8021	ug/L	4	20	20
NASJ-159-GH-14-01	1	1,3-Dichlorobenzene	5030/8021	ug/L	12	20	20
NASJ-159-GH-14-01	1	1,4-Dichlorobenzene	5030/8021	ug/L	8	20	20
NASJ-159-GH-14-01	1	1,2-Dichlorobenzene	5030/8021	ug/L	12	20	20
NASJ-159-GH-14-01	1	Bromofluorobenzene	5030/8021	%			20
NASJ-159-GH-15-01	1	Lead	3010/6010	mg/L	0.003	0.005	1
NASJ-159-GH-15-01	1	Naphthalene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-15-01	1	Acenaphthylene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-15-01	1	1-Methylnaphthalene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-15-01	1	2-Methylnaphthalene	3510/8310	ug/L	0.2	1	1
NASJ-159-GH-15-01	1	Acenaphthene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-15-01	1	Fluorene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-15-01	1	Phenanthrene	3510/8310	ug/L	0.04	1	1
NASJ-159-GH-15-01	1	Anthracene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-15-01	1	Fluoranthene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-15-01	1	Pyrene	3510/8310	ug/L	0.04	0.05	1
NASJ-159-GH-15-01	1	Benzo(a)anthracene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-15-01	1	Chrysene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-15-01	1	Benzo(b)fluoranthene	3510/8310	ug/L	0.06	0.1	1
NASJ-159-GH-15-01	1	Benzo(k)fluoranthene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-15-01	1	Benzo(a)pyrene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-15-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-15-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-15-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-15-01	1	P-Terphenyl	3510/8310	%			1
NASJ-159-GH-15-01	1	Methyl tert-butyl ether	5030/8021	ug/L	6	40	20
NASJ-159-GH-15-01	1	Benzene	5030/8021	ug/L	4	20	20
NASJ-159-GH-15-01	1	Toluene	5030/8021	ug/L	8	20	20
NASJ-159-GH-15-01	1	Chlorobenzene	5030/8021	ug/L	8	20	20
NASJ-159-GH-15-01	1	Ethylbenzene	5030/8021	ug/L	4	20	20
NASJ-159-GH-15-01	1	m-Xylene & p-Xylene	5030/8021	ug/L	6	20	20
NASJ-159-GH-15-01	1	o-Xylene	5030/8021	ug/L	4	20	20
NASJ-159-GH-15-01	1	1,3-Dichlorobenzene	5030/8021	ug/L	12	20	20
NASJ-159-GH-15-01	1	1,4-Dichlorobenzene	5030/8021	ug/L	8	20	20
NASJ-159-GH-15-01	1	1,2-Dichlorobenzene	5030/8021	ug/L	12	20	20
NASJ-159-GH-15-01	1	Bromofluorobenzene	5030/8021	%			20

NASJ-159-GH-21-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-21-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-21-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-21-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-21-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-21-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-21-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-21-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-21-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-21-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-21-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-21-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-21-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-21-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-21-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-21-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-21-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-21-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-21-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-21-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-21-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-21-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-21-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-21-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-21-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-21-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-21-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-21-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-21-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-21-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-21-01	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-22-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-22-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-22-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-22-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-22-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-22-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-22-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-22-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-22-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-22-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-22-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-22-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-22-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-22-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-22-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-22-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-22-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-22-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-22-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-22-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-22-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-22-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-22-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-22-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-22-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-22-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-22-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-22-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-22-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-22-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-22-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-24-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-24-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-24-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-24-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-24-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-24-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-24-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-24-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-24-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-24-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-24-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-24-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-24-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-24-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-24-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-24-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-24-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-24-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-24-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-24-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-24-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-24-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-24-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-24-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-24-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-24-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-24-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-24-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-24-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-24-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-24-01	1	Bromofluorobenzene	5030/8021	%				1

QSARF # 03945

ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

10207 General Drive
Orlando, Florida 32824
Ph. (407) 826-5314 • Fax (407) 850-6945

ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: NAS JAX, GAS HILL CTO 101
PROJECT NO.: N0255
P.O. NUMBER:
PAGE 1 OF 1

PROJECT LOC. (State): FL
SAMPLER(s) NAME: M. DALE / E. PARKER
PHONE: 904 281-0400
FAX: 904 281 0070

CLIENT NAME: Tetra Tech NUS, Inc.
CLIENT PROJECT MANAGER: MERVIN DALE
CLIENT ADDRESS (CITY, STATE, ZIP): JACKSONVILLE, FL 32256

MATRIX TYPE: SURFACE WATER / GROUND WATER / WASTEWATER / DRINKING WATER / SOIL/SOLID/SEDIMENT / NONAQUEOUS LIQUID (oil, solvent, etc.) / AIR / SLUDGE / OTHER

REQUIRED ANALYSIS: 8021B (HCl), 8310 (None), Pb 6010B (HNO_3)

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER	8021B HCl	8310 None	Pb 6010B HNO_3						REMARKS
1	073099	1010	✓		NASJ-159-GH-24-01		✓								2	1	1						COC #03944
2	073099	1024	✓		NASJ-159-GH-14-01		✓								2	1	1						
3	073099	1148	✓		NASJ-159-GH-21-01		✓								2	1	1						
4	073099	1220	✓		NASJ-159-GH-01-01		✓								2	1	1						
5	073099	1505	✓		NASJ-159-GH-15-01		✓								2	1	1						
6	073099	1543	✓		NASJ-159-GH-22-01		✓								2	1	1						
7	073099	1712	✓		NASJ-159-GH-12-01		✓								2	1	1						
8	~~073099~~		~~✓~~		~~NASJ-159-GH-06-01~~		~~✓~~								~~2~~	~~1~~	~~1~~						Did not collect MWDale
9																							
10																							
11																							
12																							
13																							
14																							

SAMPLE KIT PREPARED BY: ☒ JACKSONVILLE ☐ ORLANDO	DATE	TIME	RELINQUISHED BY: (SIGNATURE) Mervin W. Dale	DATE 073099	TIME 1811	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE) Dominic A. Datto	DATE 7/30/99	TIME 1811	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
Judson ☒ Jacksonville ☐ Orlando	7/31/99	930	☒ YES ☐ NO	J27908	

PROJECT Ms. Lee Leck
DELIVERY Tetra Tech NUS, Inc.
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REPORT # : JR7908
DATE SUBMITTED : July 31, 1999
DATE REPORTED : August 18, 1999

INVOICE: Accounts Payable
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REFERENCE : NAS JAX Gas Hill
NO255 (CTO-101)
P.O. # : PITT-N7173-P99492(sd)
Taxpayer ID # : 59-3497702

INVOICE

DESCRIPTION	PRICE	QTY	AMOUNT
EPA METHOD 5030/8021 (VOCs by GC/PID)	$ 50.00	X 7	$ 350.00
EPA METHOD 3510/8310 (PAH by HPLC)	$ 120.00	X 7	$ 840.00
EPA METHOD 3010/6010b (Lead)	$ 12.00	X 7	$ 84.00
TOTAL			**$ 1274.00**

Please remit payment to :
Environmental Conservation Laboratories, Inc.
9500 Satellite Blvd., Suite 190
Orlando, FL 32837-8466
TERMS: NET 30 DAYS
Past Due Balances are subject to a 1.5% per month service charge.

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CASE NARRATIVE

Date: August 19, 1999

Client: Tetra Tech NUS, Inc.

Project #: N0255 / CTO101

Lab ID: JR7908

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Seven aqueous samples were received on July 31, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

Quality Control Remarks

In the 8021 analyses, the MS and MSD recoveries for benzene were unavailable due to high sample concentration.

Other Comments

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Tetra Tech NUS, Inc.
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REPORT # : JR7920
DATE SUBMITTED: August 3, 1999
DATE REPORTED : August 23, 1999

ATTENTION: Ms. Lee Leck

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: NO255/CTO101

NAS JAX Gas Hill

08/02/99

#1 - NASJ-159-GH-09-01 @ 09:58
#2 - NASJ-159-GH-03-01 @ 10:20
#3 - NASJ-159-GH-16-01 @ 12:05
#4 - NASJ-159-GH-02-01 @ 12:35
#5 - NASJ-159-GH-19-01 @ 15:40
#6 - NASJ-159-GH-13-01 @ 15:55
#7 - NASJ-159-GH-10-01 @ 17:28
#8 - NASJ-159-GH-17-01 @ 17:40
#9 - NASJ-159-GH-DUP2-01
#10 - TRIPBLANK

PROJECT MANAGER ______________________
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-09-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	48.5	µg/L
Surrogate Percent Recovery	97	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/06/99	

TOTAL METALS	METHOD	NASJ-159-GH-09-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/04/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-09-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	7.8	µg/L
Surrogate Percent Recovery	78	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-03-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	59	µg/L
Surrogate Percent Recovery	118	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/09/99	

TOTAL METALS	METHOD	NASJ-159-GH-03-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/04/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-03-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	**3.7**	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	**0.44**	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	7.4	µg/L
Surrogate Percent Recovery	74	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-16-01	Units
Methyl tert-butyl ether	2.0 U	μg/L
Benzene	1.0 U	μg/L
Toluene	1.0 U	μg/L
Chlorobenzene	1.0 U	μg/L
Ethylbenzene	1.0 U	μg/L
m-Xylene & p-Xylene	1.0 U	μg/L
o-Xylene	1.0 U	μg/L
1,3-Dichlorobenzene	1.0 U	μg/L
1,4-Dichlorobenzene	1.0 U	μg/L
1,2-Dichlorobenzene	1.0 U	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	49.5	μg/L
Surrogate Percent Recovery	99	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/06/99	

TOTAL METALS	METHOD	NASJ-159-GH-16-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/09/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	**NASJ-159-GH-16-01**	**Units**
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	7.7	µg/L
Surrogate Percent Recovery	77	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-02-01			Units
Methyl tert-butyl ether	10	U	D1	µg/L
Benzene	**6.0**		D1	µg/L
Toluene	**8.0**		D1	µg/L
Chlorobenzene	5.0	U	D1	µg/L
Ethylbenzene	**38**		D1	µg/L
m-Xylene & p-Xylene	**700**		D1	µg/L
o-Xylene	**58**		D1	µg/L
1,3-Dichlorobenzene	5.0	U	D1	µg/L
1,4-Dichlorobenzene	5.0	U	D1	µg/L
1,2-Dichlorobenzene	5.0	U	D1	µg/L
Surrogate (Bromofluorobenzene)				
Surrogate Expected Value	50			µg/L
Surrogate Reported Value	53.5			µg/L
Surrogate Percent Recovery	107			%
Surrogate Control Limits	65-129			%
Date Analyzed	08/09/99			

TOTAL METALS	METHOD	NASJ-159-GH-02-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/04/99	

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-02-01	Units
Naphthalene	**2.0**	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	**3.3**	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	**0.12** I	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	**0.11** I	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	6.7	µg/L
Surrogate Percent Recovery	67	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	**NASJ-159-GH-19-01**	**Units**
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50	µg/L
Surrogate Percent Recovery	100	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	**METHOD**	**NASJ-159-GH-19-01**	**Units**
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/09/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-19-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	5.2	µg/L
Surrogate Percent Recovery	52	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-13-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	**1.4**	µg/L
m-Xylene & p-Xylene	**10**	µg/L
o-Xylene	**4.5**	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	49.5	µg/L
Surrogate Percent Recovery	99	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/06/99	

TOTAL METALS	METHOD	NASJ-159-GH-13-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/09/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-13-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	7.3	µg/L
Surrogate Percent Recovery	73	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-10-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	48.5	µg/L
Surrogate Percent Recovery	97	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/06/99	

TOTAL METALS	METHOD	NASJ-159-GH-10-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/04/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-10-01	Units
Naphthalene	0.50 U	μg/L
Acenaphthylene	1.0 U	μg/L
1-Methylnaphthalene	1.0 U	μg/L
2-Methylnaphthalene	1.0 U	μg/L
Acenaphthene	0.50 U	μg/L
Fluorene	0.10 U	μg/L
Phenanthrene	1.0 U	μg/L
Anthracene	0.050 U	μg/L
Fluoranthene	0.10 U	μg/L
Pyrene	0.050 U	μg/L
Benzo(a)anthracene	0.050 U	μg/L
Chrysene	0.050 U	μg/L
Benzo(b)fluoranthene	0.10 U	μg/L
Benzo(k)fluoranthene	0.050 U	μg/L
Benzo(a)pyrene	0.050 U	μg/L
Dibenzo(a,h)anthracene	0.10 U	μg/L
Benzo(g,h,i)perylene	0.10 U	μg/L
Indeno(1,2,3-cd)pyrene	0.050 U	μg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	μg/L
Surrogate Reported Value	7.6	μg/L
Surrogate Percent Recovery	76	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-17-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50	µg/L
Surrogate Percent Recovery	100	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/06/99	

TOTAL METALS	METHOD	NASJ-159-GH-17-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/04/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-17-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	**4.0**	µg/L
Fluorene	**0.84**	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	7.6	µg/L
Surrogate Percent Recovery	76	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-DUP2-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	**1.7**	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	49.5	µg/L
Surrogate Percent Recovery	99	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/06/99	

TOTAL METALS	METHOD	NASJ-159-GH-DUP2-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/04/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-DUP2-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	**3.5**	µg/L
Fluorene	**0.74**	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	7.1	µg/L
Surrogate Percent Recovery	71	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	TRIPBLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	49.5	µg/L
Surrogate Percent Recovery	99	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/06/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	49	µg/L
Surrogate Percent Recovery	98	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/06/99	

TOTAL METALS	METHOD	LAB BLANK	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/04/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	LAB BLANK	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	8.1	µg/L
Surrogate Percent Recovery	81	%
Surrogate Control Limit	39-148	%
Date Extracted	08/05/99	
Date Analyzed	08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - **VOLATILE ORGANICS**	**LAB BLANK**	**Units**
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	51.5	µg/L
Surrogate Percent Recovery	103	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	61	µg/L
Surrogate Percent Recovery	122	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/09/99	

U = Compound was analyzed for but not detected to the level shown.

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	LCS TARGET µg/L	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 602/6230D/8020/8021					
Benzene	*/ */ 97	20	60-138	<1	17
Toluene	#54/ 72/106	20	57-138	#28	16
Ethylbenzene	*/ */105	20	49-144	<1	17
o-Xylene	*/ */105	20	50-151	<1	17
EPA Method 8310					
Naphthalene	63/ 55/ 70	10	22-130	14	20
Acenaphthene	67/ 78/121	10	14-163	15	19
Benzo(a)pyrene	84/ 88/ 96	1	33-137	5	36
Benzo(g,h,i)perylene	78/ 80/ 90	2	36-135	2	34
Total Metals					
Lead, 3010/6010	105/107/105	1	68-126	2	19

NOTE: Pb LCS target units are mg/L

Environmental Conservation Laboratories Comprehensive QA Plan #960038

- * = MS/MSD/RPD unavailable due to high original sample concentration.
- # = One or more of the associated value failed to meet laboratory established criteria for accuracy/precision.
- < = Less Than
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- LCS = Laboratory Control Standard
- RPD = Relative Percent Difference

QSARF # Ø3943
BRØØ6

ENCO

ENVIRONMENTAL CONSERVATION LABORATORIES

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ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: GAS HILL, NASJAX CTO 101
PROJECT NO.: N0255
P.O. NUMBER:
PROJECT LOC. (State): FL
SAMPLER(s) NAME: M. DALE / E. PARKER
PHONE: 9042810490
FAX: 9042810070
CLIENT NAME: TetraTech NUS, Inc.
CLIENT PROJECT MANAGER: MERVIN DALE
CLIENT ADDRESS (CITY, STATE, ZIP): JACKSONVILLE, FL 32256

PAGE 1 OF 1

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

MATRIX TYPE: SURFACE WATER, GROUND WATER, WASTEWATER, DRINKING WATER, SOIL/SOLID/SEDIMENT, NONAQUEOUS LIQUID (oil, solvent, etc.), AIR, SLUDGE, OTHER

REQUIRED ANALYSIS: 8021B (PRESERVATIVE: HCl); 8310 (PRESERVATIVE: None); Pb, 6010B (PRESERVATIVE: HNO3)

NUMBER OF CONTAINERS SUBMITTED

STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER	8021B (HCl)	8310 (None)	Pb, 6010B (HNO3)						REMARKS
1	080299	0958	✓		NASJ-159-GH-09-01		✓								2	1	1						
2	080299	1020	✓		NASJ-159-GH-03-01		✓								2	1	1						COC# 03946
3	080299	1205	✓		NASJ-159-GH-16-01		✓								2	1	1						
4	080299	1235	✓		NASJ-159-GH-02-01		✓								2	1	1						
5	080299	1540	✓		NASJ-159-GH-19-01		✓								2	1	1						
6	080299	1555	✓		NASJ-159-GH-13-01		✓								2	1	1						
7	080299	1728	✓		NASJ-159-GH-10-01		✓								2	1	1						
8	080299	1740	✓		NASJ-159-GH-17-01		✓								2	1	1						
9	080299	0000	✓		NASJ-159-GH-DUP2-01		✓								2	1	1						
10	072899	—	✓		TRIP BLANK									✓	2								
11																							
12																							
13																							
14																							

SAMPLE KIT PREPARED BY: ☐JACKSONVILLE ☐ORLANDO	DATE	TIME	RELINQUISHED BY: (SIGNATURE) Mervin W Dale	DATE 8/3/99	TIME 0735	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
[signature] ☒ Jacksonville ☐ Orlando	8/3/99	7:35	☐ YES ☐ NO	JR7920	

Environmental Conservation Laboratories, Inc.
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Jacksonville, Florida 32216-6069
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ENCO Laboratories

DHRS Certification No. E82277

CASE NARRATIVE

Date: August 24, 1999

Client: Tetra Tech NUS, Inc.

Project #: N0255 / CTO101

Lab ID: JR7920

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Nine aqueous samples and one trip blank were received on August 3, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

Quality Control Remarks

In the 8021 analyses, one component exhibited RPD's and recoveries outside of established limits : toluene. Additionally, matrix spike and spike duplicate (MS/MSD) recoveries were unavailable due to the high concentrations present in the sample used as the original. Recoveries for both the toluene matrix spike and spike duplicate trended low due to a matrix-related effect, and the data was released without qualification. Laboratory control standard recoveries were within control limits for all spiked constituents.

Other Comments

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

sample_no	run_number	parameter	method	units	idl	mdl	crdl_crql	dil_factor	pct_moist
NASJ-159-GH-02-01	1	Lead	3010/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-02-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-02-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-02-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-02-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-02-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-02-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-02-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-02-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-02-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-02-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-02-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-02-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-02-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-02-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-02-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-02-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-02-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-02-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-02-01	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-02-01	1	Methyl tert-butyl ether	5030/8021	ug/L		1.5	10	5	
NASJ-159-GH-02-01	1	Benzene	5030/8021	ug/L		1	5	5	
NASJ-159-GH-02-01	1	Toluene	5030/8021	ug/L		2	5	5	
NASJ-159-GH-02-01	1	Chlorobenzene	5030/8021	ug/L		2	5	5	
NASJ-159-GH-02-01	1	Ethylbenzene	5030/8021	ug/L		1	5	5	
NASJ-159-GH-02-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		1.5	5	5	
NASJ-159-GH-02-01	1	o-Xylene	5030/8021	ug/L		1	5	5	
NASJ-159-GH-02-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		3	5	5	
NASJ-159-GH-02-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		2	5	5	
NASJ-159-GH-02-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		3	5	5	
NASJ-159-GH-02-01	1	Bromofluorobenzene	5030/8021	%				5	
NASJ-159-GH-03-01	1	Lead	3010/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-03-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-03-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-03-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-03-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-03-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-03-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-03-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-03-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-03-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-03-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-03-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-03-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-03-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-03-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-03-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-03-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-03-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-03-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-03-01	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-03-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1	
NASJ-159-GH-03-01	1	Benzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-03-01	1	Toluene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-03-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-03-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-03-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1	
NASJ-159-GH-03-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-03-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-03-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-03-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-03-01	1	Bromofluorobenzene	5030/8021	%				1	

NASJ-159-GH-09-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-09-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-09-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-09-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-09-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-09-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-09-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-09-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-09-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-09-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-09-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-09-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-09-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-09-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-09-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-09-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-09-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-09-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-09-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-09-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-09-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-09-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-09-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-09-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-09-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-09-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-09-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-09-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-09-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-09-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-09-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-10-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-10-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-10-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-10-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-10-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-10-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-10-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-10-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-10-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-10-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-10-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-10-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-10-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-10-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-10-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-10-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-10-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-10-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-10-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-10-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-10-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-10-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-10-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-10-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-10-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-10-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-10-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-10-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-10-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-10-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-10-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-13-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-13-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-13-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-13-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-13-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-13-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-13-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-13-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-13-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-13-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-13-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-13-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-13-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-13-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-13-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-13-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-13-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-13-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-13-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-13-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-13-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-13-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-13-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-13-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-13-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-13-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-13-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-13-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-13-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-13-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-13-01	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-16-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-16-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-16-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-16-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-16-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-16-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-16-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-16-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-16-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-16-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-16-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-16-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-16-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-16-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-16-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-16-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-16-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-16-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-16-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-16-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-16-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-16-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-16-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-16-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-16-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-16-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-16-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-16-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-16-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-16-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-16-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-17-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-17-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-17-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-17-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-17-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-17-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-17-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-17-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-17-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-17-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-17-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-17-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-17-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-17-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-17-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-17-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-17-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-17-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-17-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-17-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-17-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-17-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-17-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-17-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-17-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-17-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-17-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-17-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-17-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-17-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-17-01	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-19-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-19-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-19-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-19-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-19-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-19-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-19-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-19-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-19-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-19-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-19-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-19-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-19-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-19-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-19-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-19-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-19-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-19-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-19-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-19-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-19-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-19-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-19-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-19-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-19-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-19-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-19-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-19-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-19-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-19-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-19-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-DUP2-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-DUP2-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-DUP2-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-DUP2-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-DUP2-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-DUP2-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-DUP2-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-DUP2-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-DUP2-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-DUP2-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-DUP2-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-DUP2-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-DUP2-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-DUP2-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-DUP2-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-DUP2-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-DUP2-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-DUP2-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-DUP2-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-DUP2-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-DUP2-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-DUP2-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-DUP2-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-DUP2-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-DUP2-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-DUP2-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-DUP2-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-DUP2-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-DUP2-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-DUP2-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-DUP2-01	1	Bromofluorobenzene	5030/8021	%				1

TRIPBLANK	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
TRIPBLANK	1	Benzene	5030/8021	ug/L		0.2	1	1
TRIPBLANK	1	Toluene	5030/8021	ug/L		0.4	1	1
TRIPBLANK	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
TRIPBLANK	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
TRIPBLANK	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
TRIPBLANK	1	o-Xylene	5030/8021	ug/L		0.2	1	1
TRIPBLANK	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
TRIPBLANK	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
TRIPBLANK	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
TRIPBLANK	1	Bromofluorobenzene	5030/8021	%				1

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ENCO Laboratories

DHRS Certification No. E82277

CLIENT : Tetra Tech NUS, Inc.
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REPORT # : JR7944
DATE SUBMITTED: August 3, 1999
DATE REPORTED : August 23, 1999

ATTENTION: Ms. Lee Leck

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: N0255/CTO101

NAS JAX Gas Hill

#1	- NASJ-159-GH-07-01	@ 10:35	(08/03/99)
#2	- NASJ-159-GH-05-01	@ 10:47	(08/03/99)
#3	- NASJ-159-GH-04-01	@ 13:40	(08/03/99)
#4	- NASJ-159-GH-06-01	@ 14:55	(08/03/99)
#5	- NASJ-159-GH-20-01	@ 16:03	(08/03/99)
#6	- NASJ-159-GH-08-01	@ 16:05	(08/03/99)
#7	- NASJ-159-GH-DUP3-01		(08/03/99)
#8	- TRIPBLANK		(07/28/99)

PROJECT MANAGER ______________________
Scott D. Martin

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-07-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50.5	µg/L
Surrogate Percent Recovery	101	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-07-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-07-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	9.4	µg/L
Surrogate Percent Recovery	94	%
Surrogate Control Limit	39-148	%
Date Extracted	08/10/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-05-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50	µg/L
Surrogate Percent Recovery	100	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-05-01	Units
Lead	3010/6010	**0.0060** I	mg/L
Date Analyzed		08/10/99	

I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-05-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	5.3	µg/L
Surrogate Percent Recovery	53	%
Surrogate Control Limit	39-148	%
Date Extracted	08/10/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-04-01	Units
Methyl tert-butyl ether	2.0 U	μg/L
Benzene	1.0 U	μg/L
Toluene	1.0 U	μg/L
Chlorobenzene	1.0 U	μg/L
Ethylbenzene	1.0 U	μg/L
m-Xylene & p-Xylene	1.0 U	μg/L
o-Xylene	1.0 U	μg/L
1,3-Dichlorobenzene	1.0 U	μg/L
1,4-Dichlorobenzene	1.0 U	μg/L
1,2-Dichlorobenzene	1.0 U	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	48	μg/L
Surrogate Percent Recovery	96	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-04-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/10/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-04-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.6	µg/L
Surrogate Percent Recovery	86	%
Surrogate Control Limit	39-148	%
Date Extracted	08/10/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-06-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	48.5	µg/L
Surrogate Percent Recovery	97	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-06-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
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DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	**NASJ-159-GH-06-01**	**Units**
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.9	µg/L
Surrogate Percent Recovery	89	%
Surrogate Control Limit	39-148	%
Date Extracted	08/10/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-20-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	49.5	µg/L
Surrogate Percent Recovery	99	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-20-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/10/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	**NASJ-159-GH-20-01**	**Units**
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	7.5	µg/L
Surrogate Percent Recovery	75	%
Surrogate Control Limit	39-148	%
Date Extracted	08/10/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-08-01	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	49	µg/L
Surrogate Percent Recovery	98	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-08-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/10/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-08-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	**0.050** I	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	**0.10** I	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	**0.050** I	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	9.4	µg/L
Surrogate Percent Recovery	94	%
Surrogate Control Limit	39-148	%
Date Extracted	08/10/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-DUP3-01	Units
Methyl tert-butyl ether	2.0 U	μg/L
Benzene	1.0 U	μg/L
Toluene	1.0 U	μg/L
Chlorobenzene	1.0 U	μg/L
Ethylbenzene	1.0 U	μg/L
m-Xylene & p-Xylene	1.0 U	μg/L
o-Xylene	1.0 U	μg/L
1,3-Dichlorobenzene	1.0 U	μg/L
1,4-Dichlorobenzene	1.0 U	μg/L
1,2-Dichlorobenzene	1.0 U	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	50.5	μg/L
Surrogate Percent Recovery	101	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-DUP3-01	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-DUP3-01	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	7.6	µg/L
Surrogate Percent Recovery	76	%
Surrogate Control Limit	39-148	%
Date Extracted	08/10/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	TRIPBLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	52	µg/L
Surrogate Percent Recovery	104	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	49	µg/L
Surrogate Percent Recovery	98	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

TOTAL METALS	METHOD	LAB BLANK	Units
Lead	3010/6010	0.0050 U	mg/L
Date Analyzed		08/10/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	LAB BLANK	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.050 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	9.3	µg/L
Surrogate Percent Recovery	93	%
Surrogate Control Limit	39-148	%
Date Extracted	08/10/99	
Date Analyzed	08/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	49	µg/L
Surrogate Percent Recovery	98	%
Surrogate Control Limits	65-129	%
Date Analyzed	08/07/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	LCS Target µg/L	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 5030/8021 (NASJ-159-GH-07-01)					
Benzene	97/ 99/ 82	20	60-138	2	17
Toluene	95/ 96/ 81	20	57-138	1	16
Ethylbenzene	101/ 99/103	20	49-144	2	17
o-Xylene	96/ 98/ 83	20	50-151	2	17
EPA Method 5030/8021 (NASJ-159-GH-05-01,NASJ-159-GH-04-01,NASJ-159-GH-06-01,NASJ-159-GH-20-01,NASJ-159-GH-08-01,NASJ-159-GH-DUP3-01,TRIPBLANK)					
Benzene	96/ 92/ 91	20	60-138	4	17
Toluene	95/ 92/ 92	20	57-138	3	16
Ethylbenzene	100/ 95/ 92	20	49-144	5	17
o-Xylene	94/ 92/ 90	20	50-151	2	17
EPA Method 3510/8310					
Naphthalene	82/ 58/ 76	10	22-130	#34	20
Acenaphthene	82/ 64/ 74	10	14-163	#25	19
Benzo(a)pyrene	78/ 62/ 90	1	33-137	23	36
Benzo(g,h,i)perylene	72/ 56/ 92	2	36-135	25	34
Total Metals					
Lead, 3010/6010	99/ 99/103	1	68-126	<1	19

NOTE: LCS target units for Lead is mg/L

Environmental Conservation Laboratories Comprehensive QA Plan #960038

\# = The associated value failed to meet laboratory established criteria for precision.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

Brown & Root Environmental

REPORT TO ADDRESS: 7018 A.C. SKINNER PKWY. STE 250, JAX, FL 32256

TELEPHONE: 904 281 0400 FAX: 904 281 0070

SITE MANAGER: MERVIN DALE

PROJECT NAME: GAS HILL, NASJAX

BRE PROJECT NO.: N0255 CODE: CTO 101

P.O. NO.:

SHIPPED TO: ENCO, JACKSONVILLE, FL (LABORATORY NAME, CITY)

PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

SAMPLED BY (PRINT): M.W. DALE

SAMPLER SIGNATURE: Mervin W. Dale

LABORATORY ANALYSIS

☒ STANDARD TAT ☐ RUSH

☐ 24 HR. ☐ 48 HR. ☐ 72 HR. ☐ 7 DAYS

RESULTS DUE DATE:

LAB NO.	DATE	TIME	SAMPLE IDENTIFICATION	COMP.	GRAB	MATRIX	8021B (HCl)	8310 (None)	Pb 6010B (HNO3)							NUMBER OF CONTAINERS	COMMENTS
	080399	1035	NASJ-159-GH-07-01		✓	GW	2	1	1							4	
	080399	1047	NASJ-159-GH-05-01		✓	GW	2	1	1							4	
	080399	1340	NASJ-159-GH-04-01		✓	GW	2	1	1							4	
	080399	1455	NASJ-159-GH-06-01		✓	GW	2	1	1							4	
	080399	1603	NASJ-159-GH-20-01		✓	GW	2	1	1							4	
	080399	1605	NASJ-159-GH-08-01		✓	GW	2	1	1							4	
	080399	0000	NASJ-159-GH-DUP3-01		✓	GW	2	1	1							4	
	072899	—	TRIP BLANK		✓	OT	2									2	
			TOTAL NUMBER OF CONTAINERS				16	7	7							30	

	SEAL INTACT?	DATE / TIME		SEAL INTACT?	DATE / TIME
EMPTY BOTTLES RELINQUISHED BY (SIGNATURE) ①	YES NO N/A	DATE: TIME:	EMPTY BOTTLES RECEIVED BY (SIGNATURE) ② Mervin W. Dale	YES NO N/A	DATE: 080299 TIME: 1257
RELINQUISHED BY (SIGNATURE) ③ Mervin W. Dale	YES NO N/A	DATE: 080399 TIME: 1710	RECEIVED BY (SIGNATURE) ④ [illegible]	YES NO N/A	DATE: 08/03/99 TIME: 1710
RELINQUISHED BY (SIGNATURE) ⑤	YES NO N/A	DATE: TIME:	RECEIVED BY (SIGNATURE) ⑥	YES NO N/A	DATE: TIME:

SPECIAL INSTRUCTIONS:

LABORATORY REMARKS: JR 7944 Brooke

SAMPLE CONTAINERS PRECLEANED BY: ☐ BRE ☐ LABORATORY ☐ MANUFACTURER

METHOD OF SHIPMENT:

BILL OF LADING NO.:

WHITE-FULLY EXECUTED COPY
YELLOW-RECEIVING LABORATORY COPY
PINK-SAMPLERS' COPY/QA COPY
GOLDENROD-SITE MANAGERS' COPY

SAMPLING TEAM: MERVIN DALE, ERIC PARKER

RECEIVED FOR LABORATORY BY (SIGNATURE):

DATE: TIME:

No. 3409

NO. 39150 (3/97)

Environmental Conservation Laboratories, Inc.
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

CASE NARRATIVE

Date: August 24, 1999

Client: Tetra Tech NUS, Inc.

Project #: N0255 / CTO101

Lab ID: JR7944

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Seven aqueous samples and one trip blank were received on August 3, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

Quality Control Remarks

In the 8310 analyses, two components exhibited RPD's outside of established limits : naphthalene and acenaphthene. Recoveries for both the matrix spike and matrix spike duplicate were within control limits, and the data was released without qualification.

Other Comments

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

sample_no	run_number	parameter	method	units	idl	mdl	crdl_crql	dil_factor	pct_moist
NASJ-159-GH-04-01	1	Lead	3010/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-04-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-04-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-04-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-04-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-04-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-04-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-04-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-04-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-04-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-04-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-04-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-04-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-04-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-04-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-04-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-04-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-04-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-04-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-04-01	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-04-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1	
NASJ-159-GH-04-01	1	Benzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-04-01	1	Toluene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-04-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-04-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-04-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1	
NASJ-159-GH-04-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-04-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-04-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-04-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-04-01	1	Bromofluorobenzene	5030/8021	%				1	
NASJ-159-GH-05-01	1	Lead	3010/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-05-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-05-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-05-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-05-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-05-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-05-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-05-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-05-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-05-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-05-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-05-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-05-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-05-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-05-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-05-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-05-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-05-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-05-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-05-01	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-05-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1	
NASJ-159-GH-05-01	1	Benzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-05-01	1	Toluene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-05-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-05-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-05-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1	
NASJ-159-GH-05-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-05-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-05-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-05-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-05-01	1	Bromofluorobenzene	5030/8021	%				1	

NASJ-159-GH-06-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-06-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-06-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-06-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-06-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-06-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-06-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-06-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-06-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-06-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-06-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-06-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-06-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-06-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-06-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-06-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-06-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-06-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-06-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-06-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-06-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-06-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-06-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-06-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-06-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-06-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-06-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-06-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-06-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-06-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-06-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-07-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-07-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-07-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-07-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-07-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-07-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-07-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-07-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-07-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-07-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-07-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-07-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-07-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-07-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-07-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-07-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-07-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-07-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-07-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-07-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-07-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-07-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-07-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-07-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-07-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-07-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-07-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-07-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-07-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-07-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-07-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-08-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-08-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-08-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-08-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-08-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-08-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-08-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-08-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-08-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-08-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-08-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-08-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-08-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-08-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-08-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-08-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-08-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-08-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-08-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-08-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-08-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-08-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-08-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-08-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-08-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-08-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-08-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-08-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-08-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-08-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-08-01	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-20-01	1	Lead	3010/6010	mg/L	0.003		0.005	1
NASJ-159-GH-20-01	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-20-01	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-20-01	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-20-01	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-20-01	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-20-01	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-20-01	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-20-01	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-20-01	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-20-01	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-20-01	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-20-01	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-20-01	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-20-01	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-20-01	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-20-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-20-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-20-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-20-01	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-20-01	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-20-01	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-20-01	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-20-01	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-20-01	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-20-01	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-20-01	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-20-01	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-20-01	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-20-01	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-20-01	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-DUP3-01	1	Lead	3010/6010	mg/L	0.003	0.005	1
NASJ-159-GH-DUP3-01	1	Naphthalene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-DUP3-01	1	Acenaphthylene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-DUP3-01	1	1-Methylnaphthalene	3510/8310	ug/L	0.1	1	1
NASJ-159-GH-DUP3-01	1	2-Methylnaphthalene	3510/8310	ug/L	0.2	1	1
NASJ-159-GH-DUP3-01	1	Acenaphthene	3510/8310	ug/L	0.2	0.5	1
NASJ-159-GH-DUP3-01	1	Fluorene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-DUP3-01	1	Phenanthrene	3510/8310	ug/L	0.04	1	1
NASJ-159-GH-DUP3-01	1	Anthracene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-DUP3-01	1	Fluoranthene	3510/8310	ug/L	0.04	0.1	1
NASJ-159-GH-DUP3-01	1	Pyrene	3510/8310	ug/L	0.04	0.05	1
NASJ-159-GH-DUP3-01	1	Benzo(a)anthracene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-DUP3-01	1	Chrysene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-DUP3-01	1	Benzo(b)fluoranthene	3510/8310	ug/L	0.06	0.1	1
NASJ-159-GH-DUP3-01	1	Benzo(k)fluoranthene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-DUP3-01	1	Benzo(a)pyrene	3510/8310	ug/L	0.03	0.05	1
NASJ-159-GH-DUP3-01	1	Dibenzo(a,h)anthracene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-DUP3-01	1	Benzo(g,h,i)perylene	3510/8310	ug/L	0.07	0.1	1
NASJ-159-GH-DUP3-01	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L	0.02	0.05	1
NASJ-159-GH-DUP3-01	1	P-Terphenyl	3510/8310	%			1
NASJ-159-GH-DUP3-01	1	Methyl tert-butyl ether	5030/8021	ug/L	0.3	2	1
NASJ-159-GH-DUP3-01	1	Benzene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-DUP3-01	1	Toluene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-DUP3-01	1	Chlorobenzene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-DUP3-01	1	Ethylbenzene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-DUP3-01	1	m-Xylene & p-Xylene	5030/8021	ug/L	0.3	1	1
NASJ-159-GH-DUP3-01	1	o-Xylene	5030/8021	ug/L	0.2	1	1
NASJ-159-GH-DUP3-01	1	1,3-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
NASJ-159-GH-DUP3-01	1	1,4-Dichlorobenzene	5030/8021	ug/L	0.4	1	1
NASJ-159-GH-DUP3-01	1	1,2-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
NASJ-159-GH-DUP3-01	1	Bromofluorobenzene	5030/8021	%			1
TRIPBLANK	1	Methyl tert-butyl ether	5030/8021	ug/L	0.3	2	1
TRIPBLANK	1	Benzene	5030/8021	ug/L	0.2	1	1
TRIPBLANK	1	Toluene	5030/8021	ug/L	0.4	1	1
TRIPBLANK	1	Chlorobenzene	5030/8021	ug/L	0.4	1	1
TRIPBLANK	1	Ethylbenzene	5030/8021	ug/L	0.2	1	1
TRIPBLANK	1	m-Xylene & p-Xylene	5030/8021	ug/L	0.3	1	1
TRIPBLANK	1	o-Xylene	5030/8021	ug/L	0.2	1	1
TRIPBLANK	1	1,3-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
TRIPBLANK	1	1,4-Dichlorobenzene	5030/8021	ug/L	0.4	1	1
TRIPBLANK	1	1,2-Dichlorobenzene	5030/8021	ug/L	0.6	1	1
TRIPBLANK	1	Bromofluorobenzene	5030/8021	%			1

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DHRS Certification No. E82277

CLIENT : Tetra Tech NUS, Inc.
ADDRESS: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

REPORT # : JR8408
DATE SUBMITTED: September 3, 1999
DATE REPORTED : September 28, 1999

ATTENTION: Ms. Lee Leck

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

PROJECT #: N0255.FBO.050230

Gas Hill

#1	- NASJ-159-GH-35-02	@	14:35	(09/02/99)
#2	- NASJ-159-GH-36-02	@	14:42	(09/02/99)
#3	- NASJ-159-GH-37-02	@	15:29	(09/02/99)
#4	- NASJ-159-GH-33-02	@	16:22	(09/02/99)
#5	- NASJ-159-GH-34-02	@	17:16	(09/02/99)
#6	- NASJ-159-GH-32-02	@	17:55	(09/02/99)
#7	- NASJ-159-GH-38-02	@	10:30	(09/03/99)
#8	- NASJ-159-GH-39-02	@	10:36	(09/03/99)
#9	- NASJ-159-GH-MSMS01-2	@	10:30	(09/03/99)
#10	- NASJ-159-GH-DU01-02			(09/02/99)
#11	- TRIP BLANK			(08/31/99)

PROJECT MANAGER ______________________
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-35-02	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	**4.0**	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	59	µg/L
Surrogate Percent Recovery	118	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-35-02	Units
Lead	3010/6010b	**0.0050** I	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-35-02			Units
Naphthalene	5.0	U	D1	µg/L
Acenaphthylene	10	U	D1	µg/L
1-Methylnaphthalene	**99**		D1	µg/L
2-Methylnaphthalene	**62**		D1	µg/L
Acenaphthene	**12**		D1	µg/L
Fluorene	**5.6**		D1	µg/L
Phenanthrene	10	U	D1	µg/L
Anthracene	**1.9**		D1	µg/L
Fluoranthene	**3.9**		D1	µg/L
Pyrene	1.0	U	D1	µg/L
Benzo(a)anthracene	0.50	U	D1	µg/L
Chrysene	0.50	U	D1	µg/L
Benzo(b)fluoranthene	1.0	U	D1	µg/L
Benzo(k)fluoranthene	0.50	U	D1	µg/L
Benzo(a)pyrene	0.50	U	D1	µg/L
Dibenzo(a,h)anthracene	1.0	U	D1	µg/L
Benzo(g,h,i)perylene	1.0	U	D1	µg/L
Indeno(1,2,3-cd)pyrene	0.50	U	D1	µg/L
Surrogate (p-terphenyl)				
Surrogate Expected Value	10.0			µg/L
Surrogate Reported Value	7.2			µg/L
Surrogate Percent Recovery	72			%
Surrogate Control Limit	39-148			%
Date Extracted	09/09/99			
Date Analyzed	09/11/99			

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:10 dilution.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-36-02	Units
Methyl tert-butyl ether	2.0 U	μg/L
Benzene	1.0 U	μg/L
Toluene	**2.0**	μg/L
Chlorobenzene	1.0 U	μg/L
Ethylbenzene	1.0 U	μg/L
m-Xylene & p-Xylene	1.0 U	μg/L
o-Xylene	1.0 U	μg/L
1,3-Dichlorobenzene	1.0 U	μg/L
1,4-Dichlorobenzene	1.0 U	μg/L
1,2-Dichlorobenzene	1.0 U	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	50.5	μg/L
Surrogate Percent Recovery	101	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-36-02	Units
Lead	3010/6010b	**0.0060** I	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-36-02	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.4	µg/L
Surrogate Percent Recovery	84	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-37-02	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50.5	µg/L
Surrogate Percent Recovery	101	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-37-02	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-37-02	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	1.0 U	µg/L
Fluorene	0.10 U	µg/L
Phenanthrene	0.10 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.050 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.8	µg/L
Surrogate Reported Value	8.8	µg/L
Surrogate Percent Recovery	88	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-33-02	Units
Methyl tert-butyl ether	2.0 U	μg/L
Benzene	1.0 U	μg/L
Toluene	1.0 U	μg/L
Chlorobenzene	1.0 U	μg/L
Ethylbenzene	1.0 U	μg/L
m-Xylene & p-Xylene	1.0 U	μg/L
o-Xylene	1.0 U	μg/L
1,3-Dichlorobenzene	1.0 U	μg/L
1,4-Dichlorobenzene	1.0 U	μg/L
1,2-Dichlorobenzene	1.0 U	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	52	μg/L
Surrogate Percent Recovery	104	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-33-02	Units
Lead	3010/6010b	**0.0060** I	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-33-02	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.6	µg/L
Surrogate Percent Recovery	86	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-34-02	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	51.5	µg/L
Surrogate Percent Recovery	103	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-34-02	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-34-02	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10	µg/L
Surrogate Reported Value	3.8	µg/L
Surrogate Percent Recovery	38*	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

* = Surrogate recovery outside of laboratory established limits.
U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-32-02	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	**1.2** I	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50.5	µg/L
Surrogate Percent Recovery	101	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-32-02	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-32-02	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	**2.4**	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	3.8	µg/L
Surrogate Percent Recovery	38*	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

* = Surrogate recovery outside of laboratory established limits.
U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-38-02	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	**1.1** I	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	52.5	µg/L
Surrogate Percent Recovery	105	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/08/99	

TOTAL METALS	METHOD	NASJ-159-GH-38-02	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-38-02	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	**0.10** I	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	7.0	µg/L
Surrogate Percent Recovery	70	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-39-02	Units
Methyl tert-butyl ether	**3.5**	µg/L
Benzene	**3.2**	µg/L
Toluene	**1.8**	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	67	µg/L
Surrogate Percent Recovery	134*	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-39-02	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		09/08/99	

* = Surrogate recovery outside of laboratory established limits.
U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-39-02	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.4	µg/L
Surrogate Percent Recovery	84	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-MSMS01-2	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	**1.4** I	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50.5	µg/L
Surrogate Percent Recovery	101	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-MSMS01-2	Units
Lead	3010/6010b	**0.0050** I	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-MSMS01-2	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	7.6	µg/L
Surrogate Percent Recovery	76	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	NASJ-159-GH-DU01-02	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	**1.6** I	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50	µg/L
Surrogate Percent Recovery	100	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	NASJ-159-GH-DU01-02	Units
Lead	3010/6010b	**0.0050** I	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	NASJ-159-GH-DU01-02	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	4.4	µg/L
Surrogate Percent Recovery	44	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	TRIP BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	51	µg/L
Surrogate Percent Recovery	102	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	µg/L
Benzene	1.0 U	µg/L
Toluene	1.0 U	µg/L
Chlorobenzene	1.0 U	µg/L
Ethylbenzene	1.0 U	µg/L
m-Xylene & p-Xylene	1.0 U	µg/L
o-Xylene	1.0 U	µg/L
1,3-Dichlorobenzene	1.0 U	µg/L
1,4-Dichlorobenzene	1.0 U	µg/L
1,2-Dichlorobenzene	1.0 U	µg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	µg/L
Surrogate Reported Value	50	µg/L
Surrogate Percent Recovery	100	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/07/99	

TOTAL METALS	METHOD	LAB BLANK	Units
Lead	3010/6010b	0.0050 U	mg/L
Date Analyzed		09/08/99	

U = Compound was analyzed for but not detected to the level shown.

RESULTS OF ANALYSIS

EPA METHOD 3510/8310 - PAH BY HPLC	LAB BLANK	Units
Naphthalene	0.50 U	µg/L
Acenaphthylene	1.0 U	µg/L
1-Methylnaphthalene	1.0 U	µg/L
2-Methylnaphthalene	1.0 U	µg/L
Acenaphthene	0.50 U	µg/L
Fluorene	1.0 U	µg/L
Phenanthrene	1.0 U	µg/L
Anthracene	0.10 U	µg/L
Fluoranthene	0.10 U	µg/L
Pyrene	0.10 U	µg/L
Benzo(a)anthracene	0.050 U	µg/L
Chrysene	0.050 U	µg/L
Benzo(b)fluoranthene	0.10 U	µg/L
Benzo(k)fluoranthene	0.050 U	µg/L
Benzo(a)pyrene	0.050 U	µg/L
Dibenzo(a,h)anthracene	0.10 U	µg/L
Benzo(g,h,i)perylene	0.10 U	µg/L
Indeno(1,2,3-cd)pyrene	0.050 U	µg/L
Surrogate (p-terphenyl)		
Surrogate Expected Value	10.0	µg/L
Surrogate Reported Value	8.6	µg/L
Surrogate Percent Recovery	86	%
Surrogate Control Limit	39-148	%
Date Extracted	09/09/99	
Date Analyzed	09/11/99	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill

RESULTS OF ANALYSIS

EPA METHOD 5030/8021 - VOLATILE ORGANICS	LAB BLANK	Units
Methyl tert-butyl ether	2.0 U	μg/L
Benzene	1.0 U	μg/L
Toluene	1.0 U	μg/L
Chlorobenzene	1.0 U	μg/L
Ethylbenzene	1.0 U	μg/L
m-Xylene & p-Xylene	1.0 U	μg/L
o-Xylene	1.0 U	μg/L
1,3-Dichlorobenzene	1.0 U	μg/L
1,4-Dichlorobenzene	1.0 U	μg/L
1,2-Dichlorobenzene	1.0 U	μg/L
Surrogate (Bromofluorobenzene)		
Surrogate Expected Value	50	μg/L
Surrogate Reported Value	50	μg/L
Surrogate Percent Recovery	100	%
Surrogate Control Limits	65-129	%
Date Analyzed	09/08/99	

U = Compound was analyzed for but not detected to the level shown.

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	LCS TARGET µg/L	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method 5030/8021					
Benzene	100/101/102	20	60-138	<1	17
Toluene	125/124/110	20	57-138	<1	16
Ethylbenzene	109/105/104	20	49-144	4	17
o-Xylene	102/102/104	20	50-151	<1	17
EPA Method 3510/8310					
Naphthalene	93/ 88/ 84	10	22-130	6	20
Acenaphthene	92/ 86/ 83	10	14-163	7	19
Benzo(a)pyrene	97/ 97/ 94	1	33-137	<1	36
Benzo(g,h,i)perylene	66/ 64/ 50	2	36-135	3	34
Total Metals					
Lead, 3010/6010b	101/100/102	1	68-126	<1	19

NOTE: Pb LCS target units are mg/L

Environmental Conservation Laboratories Comprehensive QA Plan #960038

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

JXO 100

TETRA TECH NUS, INC. | CHAIN OF CUSTODY | NUMBER 159-2 | PAGE 1 OF 1

PROJECT NO: N0255.FB0.050230	SITE NAME: GAS HILL	PROJECT MANAGER AND PHONE NUMBER: Greg Roof 904 ~~243-1~~ 281-0400	LABORATORY NAME AND CONTACT: ENCO
SAMPLERS (SIGNATURE): Mervin W. Dale, Eric Pal[illegible]		FIELD OPERATIONS LEADER AND PHONE NUMBER: MERVIN DALE 904 281-0400	ADDRESS: 4810 Executive Park Ct., Ste 211
		CARRIER/WAYBILL NUMBER: None	CITY, STATE: JACKSONVILLE, FL 32824

STANDARD TAT ☐ RUSH TAT ☐ 21 DAYS
☐ 24 hr. ☐ 48 hr. ☐ ~~72 hr.~~ ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G, G, P
PRESERVATIVE USED: HCl, None, HNO_3

TYPE OF ANALYSIS: VOA's (BTEX + MTBE) 8021B; PAH's 8310; Pb 6010B (trace)

DATE YEAR 1999	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	VOA's (BTEX + MTBE) 8021B	PAH's 8310	Pb 6010B (trace)						COMMENTS
09/02	1435	NASJ-159-GH-35-02	GW	G	4	2	1	1						① Cool to 4°C
↓	1442	NASJ-159-GH-36-02	GW	G	4	2	1	1						② Custody seal
	1529	NASJ-159-GH-37-02	GW	G	4	2	1	1						on 2 coolers
	1622	NASJ-159-GH-33-02	GW	G	4	2	1	1						③ Trip BLANK
	1716	NASJ-159-GH-34-02	GW	G	4	2	1	1						Supplied by
	1755	NASJ-159-GH-32-02	GW	G	4	2	1	1						Lab.
09/03	1030	NASJ-159-GH-38-02	GW	G	4	2	1	1						④ ALL VOA VIALS
09/03	1036	NASJ-159-GH-39-02	GW	G	4	2	1	1						IN one cooler.
09/03	1030	NASJ-159-GH-MSMSD1-02	GW	G	4	2	1	1						
09/02	0000	NASJ-159-GH-DU01-02	GW	G	4	2	1	1						
08/31	—	TRIP BLANK	W	G	4	✓								

1. RELINQUISHED BY: Mervin W. Dale	DATE 09/03/99	TIME 1321	1. RECEIVED BY: J. Atkinson	DATE 9/3/99	TIME 13:21
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FORM NO. TtNUS-001

sample_no	run_number	parameter	method	units	idl	mdl	crdl_crql	dil_factor	pct_moist
NASJ-159-GH-32-02	1	Lead	3050/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-32-02	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-32-02	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-32-02	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-32-02	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-32-02	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-32-02	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-32-02	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-32-02	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-32-02	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-32-02	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-32-02	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-32-02	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-32-02	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-32-02	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-32-02	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-32-02	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-32-02	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-32-02	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-32-02	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-32-02	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1	
NASJ-159-GH-32-02	1	Benzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-32-02	1	Toluene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-32-02	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-32-02	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-32-02	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1	
NASJ-159-GH-32-02	1	o-Xylene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-32-02	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-32-02	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-32-02	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-32-02	1	Bromofluorobenzene	5030/8021	%				1	
NASJ-159-GH-33-02	1	Lead	3050/6010	mg/L	0.003		0.005	1	
NASJ-159-GH-33-02	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-33-02	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-33-02	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1	
NASJ-159-GH-33-02	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1	
NASJ-159-GH-33-02	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1	
NASJ-159-GH-33-02	1	Fluorene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-33-02	1	Phenanthrene	3510/8310	ug/L		0.04	1	1	
NASJ-159-GH-33-02	1	Anthracene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-33-02	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1	
NASJ-159-GH-33-02	1	Pyrene	3510/8310	ug/L		0.04	0.05	1	
NASJ-159-GH-33-02	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-33-02	1	Chrysene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-33-02	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1	
NASJ-159-GH-33-02	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-33-02	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1	
NASJ-159-GH-33-02	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-33-02	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1	
NASJ-159-GH-33-02	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1	
NASJ-159-GH-33-02	1	P-Terphenyl	3510/8310	%				1	
NASJ-159-GH-33-02	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1	
NASJ-159-GH-33-02	1	Benzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-33-02	1	Toluene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-33-02	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-33-02	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-33-02	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1	
NASJ-159-GH-33-02	1	o-Xylene	5030/8021	ug/L		0.2	1	1	
NASJ-159-GH-33-02	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-33-02	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1	
NASJ-159-GH-33-02	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1	
NASJ-159-GH-33-02	1	Bromofluorobenzene	5030/8021	%				1	

NASJ-159-GH-34-02	1	Lead	3050/6010	mg/L	0.003		0.005	1
NASJ-159-GH-34-02	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-34-02	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-34-02	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-34-02	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-34-02	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-34-02	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-34-02	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-34-02	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-34-02	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-34-02	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-34-02	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-34-02	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-34-02	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-34-02	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-34-02	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-34-02	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-34-02	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-34-02	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-34-02	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-34-02	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-34-02	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-34-02	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-34-02	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-34-02	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-34-02	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-34-02	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-34-02	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-34-02	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-34-02	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-34-02	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-35-02	1	Lead	3050/6010	mg/L	0.003		0.005	1
NASJ-159-GH-35-02	1	Naphthalene	3510/8310	ug/L		2	5	10
NASJ-159-GH-35-02	1	Acenaphthylene	3510/8310	ug/L		1	10	10
NASJ-159-GH-35-02	1	1-Methylnaphthalene	3510/8310	ug/L		1	10	10
NASJ-159-GH-35-02	1	2-Methylnaphthalene	3510/8310	ug/L		2	10	10
NASJ-159-GH-35-02	1	Acenaphthene	3510/8310	ug/L		2	5	10
NASJ-159-GH-35-02	1	Fluorene	3510/8310	ug/L		0.4	1	10
NASJ-159-GH-35-02	1	Phenanthrene	3510/8310	ug/L		0.4	10	10
NASJ-159-GH-35-02	1	Anthracene	3510/8310	ug/L		0.3	0.5	10
NASJ-159-GH-35-02	1	Fluoranthene	3510/8310	ug/L		0.4	1	10
NASJ-159-GH-35-02	1	Pyrene	3510/8310	ug/L		0.4	0.5	10
NASJ-159-GH-35-02	1	Benzo(a)anthracene	3510/8310	ug/L		0.2	0.5	10
NASJ-159-GH-35-02	1	Chrysene	3510/8310	ug/L		0.2	0.5	10
NASJ-159-GH-35-02	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.6	1	10
NASJ-159-GH-35-02	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.3	0.5	10
NASJ-159-GH-35-02	1	Benzo(a)pyrene	3510/8310	ug/L		0.3	0.5	10
NASJ-159-GH-35-02	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.7	1	10
NASJ-159-GH-35-02	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.7	1	10
NASJ-159-GH-35-02	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.2	0.5	10
NASJ-159-GH-35-02	1	P-Terphenyl	3510/8310	%				10
NASJ-159-GH-35-02	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-35-02	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-35-02	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-35-02	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-35-02	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-35-02	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-35-02	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-35-02	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-35-02	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-35-02	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-35-02	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-38-02	1	Lead	3050/6010	mg/L	0.003		0.005	1
NASJ-159-GH-38-02	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-38-02	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-38-02	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-38-02	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-38-02	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-38-02	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-38-02	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-38-02	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-38-02	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-38-02	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-38-02	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-38-02	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-38-02	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-38-02	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-38-02	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-38-02	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-38-02	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-38-02	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-38-02	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-38-02	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-38-02	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-38-02	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-38-02	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-38-02	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-38-02	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-38-02	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-38-02	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-38-02	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-38-02	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-38-02	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-39-02	1	Lead	3050/6010	mg/L	0.003		0.005	1
NASJ-159-GH-39-02	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-39-02	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-39-02	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-39-02	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-39-02	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-39-02	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-39-02	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-39-02	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-39-02	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-39-02	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-39-02	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-39-02	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-39-02	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-39-02	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-39-02	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-39-02	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-39-02	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-39-02	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-39-02	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-39-02	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-39-02	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-39-02	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-39-02	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-39-02	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-39-02	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-39-02	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-39-02	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-39-02	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-39-02	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-39-02	1	Bromofluorobenzene	5030/8021	%				1

NASJ-159-GH-DU01-02	1	Lead	3050/6010	mg/L	0.003		0.005	1
NASJ-159-GH-DU01-02	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-DU01-02	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-DU01-02	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-DU01-02	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-DU01-02	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-DU01-02	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-DU01-02	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-DU01-02	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-DU01-02	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-DU01-02	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-DU01-02	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-DU01-02	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-DU01-02	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-DU01-02	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-DU01-02	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-DU01-02	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-DU01-02	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-DU01-02	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-DU01-02	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-DU01-02	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-DU01-02	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-DU01-02	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-DU01-02	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-DU01-02	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-DU01-02	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-DU01-02	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-DU01-02	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-DU01-02	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-DU01-02	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-DU01-02	1	Bromofluorobenzene	5030/8021	%				1
NASJ-159-GH-MSMS01-2	1	Lead	3050/6010	mg/L	0.003		0.005	1
NASJ-159-GH-MSMS01-2	1	Naphthalene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-MSMS01-2	1	Acenaphthylene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-MSMS01-2	1	1-Methylnaphthalene	3510/8310	ug/L		0.1	1	1
NASJ-159-GH-MSMS01-2	1	2-Methylnaphthalene	3510/8310	ug/L		0.2	1	1
NASJ-159-GH-MSMS01-2	1	Acenaphthene	3510/8310	ug/L		0.2	0.5	1
NASJ-159-GH-MSMS01-2	1	Fluorene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-MSMS01-2	1	Phenanthrene	3510/8310	ug/L		0.04	1	1
NASJ-159-GH-MSMS01-2	1	Anthracene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-MSMS01-2	1	Fluoranthene	3510/8310	ug/L		0.04	0.1	1
NASJ-159-GH-MSMS01-2	1	Pyrene	3510/8310	ug/L		0.04	0.05	1
NASJ-159-GH-MSMS01-2	1	Benzo(a)anthracene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-MSMS01-2	1	Chrysene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-MSMS01-2	1	Benzo(b)fluoranthene	3510/8310	ug/L		0.06	0.1	1
NASJ-159-GH-MSMS01-2	1	Benzo(k)fluoranthene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-MSMS01-2	1	Benzo(a)pyrene	3510/8310	ug/L		0.03	0.05	1
NASJ-159-GH-MSMS01-2	1	Dibenzo(a,h)anthracene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-MSMS01-2	1	Benzo(g,h,i)perylene	3510/8310	ug/L		0.07	0.1	1
NASJ-159-GH-MSMS01-2	1	Indeno(1,2,3-cd)pyrene	3510/8310	ug/L		0.02	0.05	1
NASJ-159-GH-MSMS01-2	1	P-Terphenyl	3510/8310	%				1
NASJ-159-GH-MSMS01-2	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
NASJ-159-GH-MSMS01-2	1	Benzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-MSMS01-2	1	Toluene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-MSMS01-2	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-MSMS01-2	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-MSMS01-2	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
NASJ-159-GH-MSMS01-2	1	o-Xylene	5030/8021	ug/L		0.2	1	1
NASJ-159-GH-MSMS01-2	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-MSMS01-2	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
NASJ-159-GH-MSMS01-2	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
NASJ-159-GH-MSMS01-2	1	Bromofluorobenzene	5030/8021	%				1
TRIP BLANK	1	Methyl tert-butyl ether	5030/8021	ug/L		0.3	2	1
TRIP BLANK	1	Benzene	5030/8021	ug/L		0.2	1	1
TRIP BLANK	1	Toluene	5030/8021	ug/L		0.4	1	1
TRIP BLANK	1	Chlorobenzene	5030/8021	ug/L		0.4	1	1
TRIP BLANK	1	Ethylbenzene	5030/8021	ug/L		0.2	1	1
TRIP BLANK	1	m-Xylene & p-Xylene	5030/8021	ug/L		0.3	1	1
TRIP BLANK	1	o-Xylene	5030/8021	ug/L		0.2	1	1
TRIP BLANK	1	1,3-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
TRIP BLANK	1	1,4-Dichlorobenzene	5030/8021	ug/L		0.4	1	1
TRIP BLANK	1	1,2-Dichlorobenzene	5030/8021	ug/L		0.6	1	1
TRIP BLANK	1	Bromofluorobenzene	5030/8021	%				1

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I Richard Camp, as the Laboratory Manager, hereby attest that all electronic deliverables have been reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at 904-296-3007 if there are any questions or problems with the enclosed electronic deliverables.

Enclosed Files:

TTNUS Project	ENCO Project (s)	Files(s)
NØ255 /CT0101	JR8358	m-JR8358
		OS-JR8358
		OV-JR8358
		TPH-JR8358
		W-JR8358
	JR8408	m-JR8408
		OS-JR8408
		OV-JR8408

Signature: [signature]

Title: Laboratory Manager

Date: 09/27/99